Sources and Prices of Selected Products for the Prevention, Diagnosis and Treatment of Malaria

SEPTEMBER 2004

A JOINT WHO – RBM – UNICEF – PSI – MSH PROJECT

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Roll Back Malaria

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MANAGEMENT SCIENCES for HEALTH

RPM Plus | *Rational Pharmaceutical Management Plus*

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A joint WHO, RBM, UNICEF, UNAIDS, PSI, MSH project.

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This report is also available

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Roll Back Malaria (RBM) Partnership: http://rbm.who.int/mmss

Roll Back Malaria (RBM) Department: www.mosquito.who.int

UNICEF: www.unicef.org

UNICEF Supply Division: www.unicef.org/supply

WHO/ Department of Essential Drugs and Medicines Policy: www.who.int/medicines

WHO Pesticide Evaluation Scheme (WHOPES): www.who.int/ctd/whopes

Population Services International: www.psi.org

Management Sciences for Health: www.msh.org

Or by contacting:

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The WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health have made every effort to ensure the accuracy of price, supplier, and other information presented in this report. However, the reader's attention is drawn to the introduction, which describes the specific sources and limitations of information provided in this report.

The reader's attention is also drawn to the importance of quality assurance for pharmaceutical products. Licensing authorities in the respective countries of manufacture are responsible for the review and approval of the detailed composition and formulation when authorizing a pharmaceutical product to be marketed, including the specifications of its ingredients, as submitted by the manufacturer of the dosage form, and to oversee compliance with Good Manufacturing Practice requirements as recommended by WHO. Application of the same rules must be made to ensure the quality of the other products listed in this publication.

This list is not an exhaustive list of all available products for the prevention, diagnosis and treatment of malaria. It includes only those products which were known to WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health as being commercially available at the time of publication and for which the manufacturer has (on a voluntary basis) agreed to complete a questionnaire and provide related information and documentation. The manufacturers listed will be regularly requested to provide WHO with updated information and it is hoped that the number of manufacturers reached and participating will increase over time.

This publication does not constitute an endorsement or warranty of the fitness of any product for a particular purpose. This publication is not based on an active assessment of, and does not therefore constitute an acceptance or recommendation in regard to, any product's quality, safety or efficacy for the treatment of malaria. WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health do not furthermore warrant that the use of the products mentioned is in accordance with the national laws and regulations of any country, including but not limited to patent laws. It is recommended that Governments and UN Agencies intending to use this publication familiarize themselves with all pertinent aspects, such as quality, safety and efficacy as well as quantification, patents, financial stability and standing of the supplier, ability to supply the required quantities, delivery time and other related aspects.

Bearing in mind that the data and information provided for a product depends largely on the manufacturer, these data and information are being provided as is, and WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health make no representations or warranties, either express or implied, as to their accuracy, completeness or fitness for a particular purpose. WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health accept no responsibility or liability for the reliance on, or use of, such data and information.

This list may not be used by manufacturers and suppliers for commercial or promotional purposes. The mention of specific companies and certain of their products does not imply that they are recommended by the WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health in preference to others of a similar nature that are not mentioned.

The designations employed and the presentation of the material in this report, including tables and maps, do not imply the expression of any opinion whatsoever on the part of the WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent border lines for which there may not yet be full agreement.

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Glossary

Abuja Targets At the Africa Summit on Roll Back Malaria held in Abuja, Nigeria in April 2000, heads of state and senior representatives from 44 malaria-afflicted countries in Africa agreed on various targets for reducing the burden of malaria in Africa.

Endemic[1] The continuous presence of a disease in a geographic location, community or population.

Epidemic[1] An outbreak of a disease within a population. See also pandemic.

Generic product The term 'generic product' has somewhat different meaning in different jurisdictions. In many technical documents, use of this term is avoided, and the term 'multisource pharmaceutical product' is used instead. In this document, where the term generic medicine is used, it means a pharmaceutical product usually intended to be interchangeable with the innovator product, which is usually manufactured without a license from the innovator company and marketed after expiry of patent or other exclusivity rights where these have previously existed. Generic products may be marketed either under the non-proprietary approved name or under a new brand (proprietary) name. They may sometimes be marketed in dosage forms and/or strengths different from those of the innovator products.

FAO The Food and Agriculture Organization of the United Nations leads international efforts to defeat hunger. Founded in 1945, FAO has focused special attention on developing rural areas, home to 70 percent of the world's poor and hungry people.

FCA (nearest port)[2] Free Carrier – (... named place). This term has been designed to meet the requirements of multimodal transport, such as container or roll-on/roll-off traffic by trailers and ferries. It is based on the same name principle as F.O.B. (free on board), except the seller fulfils its obligations when the goods are delivered to the custody of the carrier at the named place. If no precise place can be named at the time of the contract of sale, the parties should refer to the place where the carrier should take the goods into its charge. The risk of loss or damage to the goods is transferred from seller.

FOB[2] Free-on-board – (... named port of shipment). Under 'F.O.B' the goods are placed on board the ship by the seller at a port of shipment named in the sales agreement. The risk of loss of or damage to the goods is transferred to the buyer when the goods pass the ship's rail (i.e., off the dock and placed on the ship). The seller pays the cost of loading the goods.

The Global Fund The Global Fund to Fight AIDS, Tuberculosis and Malaria was created in 2001 to significantly increase resources to fight three of the world's most devastating diseases, and to direct those resources to areas of greatest need.

GMP Good Manufacturing Practice

ITN Insecticide Treated Net

LLIN Long Lasting Insecticidal Nets have been developed in response to low re-treatment rates of conventional insecticide-treated mosquito nets, especially in Africa. A LLIN is a ready-to-use pre-treated mosquito net, which requires no further treatment during its expected life span (5 years for polyethylene, and 2-3 years for polyester nets).

Malaria Malaria is a life-threatening parasitic disease transmitted by mosquitoes. The malaria parasite (Plasmodium) enters the human host when an infected Anopheles mosquito takes a blood meal. There are four types of human malaria: Plasmodium vivax, P. malariae, P. ovale and P. falciparum. The most common are P. vivax and P. falciparum while P. falciparum is the most deadly type of malaria infection. P. falciparum malaria is most common in Sub-Saharan Africa, accounting in large part for the extremely high mortality in this region.

MSF Médecins Sans Frontières is an international humanitarian aid organization that has provided, since 1971, emergency medical assistance to populations in danger in more than 80 countries.

[1] AIDS Education Global Information System

[2] International Chamber of Commerce

MSH Management Sciences for Health is a private, non-profit educational and scientific organization. Since 1971, MSH has worked with its worldwide partners to improve the management of, and access to, public health services.

MTCT Mother-to-child transmission (of HIV)

Pandemic[1] A widespread disease outbreak affecting the population of an extensive area of the world. See also epidemic.

Patents A title granted by the public authorities conferring a temporary exclusivity for the exploitation of an invention upon the person who claims it, furnishes a sufficiently clear and full description of it, and applies for exclusivity.

PSI Population Services International was founded in 1907 and is a non-profit group based in Washington, D.C. PSI is a social marketing organization with programs in more than 70 countries. PSI uses social marketing to deliver health products, services and information that enable low-income and other vulnerable people to lead healthier lives.

RBM Roll Back Malaria is a global partnership established in 1998 by the World Health Organization (WHO), the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF) and the World Bank with the goal of halving the world's malaria burden by 2010. The RBM partnership includes national governments, civil society and non-governmental organizations, research institutions, professional associations, UN and development agencies, development banks and the private sector.

Tariffs[3] Levied either on an ad valorem basis (percentage of value) or on a specific basis (e.g. US$ 7 per 100 kg), tariffs are customs duties on merchandise imports that give a price advantage to similar locally-produced goods and raise revenues for the government.

UNFPA United Nations Population Fund began its operations in 1969. It is the largest international source of population assistance. About a quarter of all population assistance from donor nations to developing countries is channelled through UNFPA.

UNICEF United Nations Children's Fund was created by the United Nations General Assembly in 1946 to help children after World War II in Europe. Headquartered in New York, UNICEF carries out its work through eight regional offices and 126 country offices covering more than 160 countries, territories and areas.

VAT Value Added Tax

WHO The World Health Organization was established in 1948 as a specialized agency of the United Nations, and has as its objective Health for All. WHO promotes technical cooperation for health among nations, carries out programmes to control and eradicate disease and strives to improve the quality of human life.

WHOPES The WHO Pesticide Evaluation Scheme was set up in 1960 and promotes and coordinates the testing and evaluation of new pesticides proposed for public health use.

[3] http://www.wto.org

1. Introduction

1.1 Background

Malaria is endemic in over 100 countries[4]. It is estimated that 40% of the world's population live in areas at malaria risk. Of this total population at risk[5] at around 20% is at stable endemic risk (mainly in tropical Africa) and around 80% at unstable (e.g. epidemic or low) risk. Over 1 million deaths a year in these countries are recorded as due to malaria, the majority of which are young children living in sub-Saharan Africa[6]. The sheer scale of this problem presents major health and socioeconomic challenges. Critical elements of any malaria control strategy are prompt and effective interventions such as vector control, diagnosis, chemoprophylaxis and treatment.

Falciparum malaria is the most dangerous of infections and is present in around 70 countries, although at highly varying rates. Most falciparum malaria (up to about 90% of the estimated global incident cases) occurs in Africa[7]. In response to this regional phenomenon, the African Summit on Roll Back Malaria, a meeting of African heads of state and government held in Abuja (April 2000), agreed to scale up country actions by 2005 to attain the following targets[8]:

- 60% of those suffering from malaria should have imminent access to and be able to use correct, affordable and appropriate treatment within 24 hours of the onset of symptoms;
- 60% of those at risk of malaria, namely children under 5 years and pregnant women, benefiting from a combination of suitable personal and community protective measures such as insecticide-treated nets;
- 60% of pregnant women having access to intermittent preventive treatment; and
- 60% of epidemics responded to within 2 weeks of onset.

However, in most malaria-endemic areas, access to preventive, diagnostic and curative services remains limited[9] due to their elevated cost. For example, the cost of insecticide-treated nets (ITNs) – widely accepted as one of the most cost-effective malaria prevention measures – has proved a major barrier to their widespread use. Increasing resistance to antimalarial medicines has become a major challenge in malaria treatment, further complicating the issue of access to effective medicines. Chloroquine, the cheapest and most widely available antimalarial medicine, has already lost its effectiveness in most parts of Africa, and resistance of the Plasmodium falciparum parasite to the most affordable alternative medicines, such as sulfadoxine-pyrimethamine combinations (SP), is a growing concern. Many newly developed medicines, such as the artemisinin-based combination therapies (ACT) have great potential in malaria treatment, but these are increasingly available and with better pricing options[10].

Current efforts to roll back malaria are part of a framework of actions under the Roll Back Malaria (RBM) partnership established in 1998 to support efforts to halve the global burden of malaria by 2010. Since then malaria prevention and control has become a priority at international and domestic levels. In 2002, approximately US$ 200 million was allocated for malaria control globally, compared with US$ 60 million in 1998. Of the total in 2002, up to US$ 80 million was for domestic commitments[11]. Malaria endemic countries are mobilizing more financial resources for their programmes today although significantly more is needed. As at the end of 2003, one source of funding alone – the Global Fund to Fight AIDS, Tuberculosis and Malaria – is

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4 Malaria 1982-1997, *Weekly Epidemiological Record*, 1999, 74: 265-270.

5 World malaria situation in 1993. Part I. Population at risk, reporting to WHO, mortality, drug resistance, situation by geographical area. *Weekly Epidemiological Record*, 1996. 71: 17-24.

6 *The Africa Malaria Report 2003*. Joint Publication WHO, UNICEF, Geneva, 2003 (WHO/CDS/MAL/2003.1093).

7 Korenromp EL, Malaria incidence estimates at country level – proposed estimates (draft report): WHO, Roll Back Malaria, 2004.

8 The African Summit on Roll Back Malaria. Abuja, Nigeria, 25 April 2000. Geneva, WHO, 2000 (WHO/CDS/RBM/2000.17).

9 Mwenesi H, Harpham T, Snow R W. Child malaria treatment practices among mothers in Kenya. *Social Science and Medicine*, 1995, 40(9):1271-1277.

10 See Annex 1.

11 *Antimalarial Drug Combination Therapy. Report of a WHO Technical Consultation, 4-5 April 2001*. Geneva, WHO, 2001 (WHO/CDS/RBM/2001.35).

expected to disburse US$ 480 million over a two year period for malaria programmes in about 60 countries worldwide. Over 50% of these resources are allocated for procurement of essential antimalarial products.

The achievement of the Abuja targets by 2005 and RBM goal by 2010 will require timely deployment of more effective interventions to improve delivery and compliance with recommended malaria control and prevention regimens. To this end, strategies such as pooled procurement, accurate price information, negotiation of more favourable prices, and the removal of taxes and tariffs in antimalarial products are essential. Many malaria endemic countries require support to improve access and affordability of newer and more effective tools in the treatment and prevention of this disease (see Annexes I and III on ACTs and RDTs).

1.2 Aim of the report

The prices that end-users pay for antimalarial medicines, insecticide-treated nets and other supplies vary considerably between public sectors of different countries, between public and private sectors and also within the private sector. Significant price variations have also been found between generic medicines and their brand-name equivalents and even between different brands of the same medicine. For instance, a recent survey found that per-tablet prices of mefloquine varied from a low of US$ 0.54 for a generic product in Uganda's public sector to US$ 8.10 for a brand-name product in a private pharmacy in the United Republic of Tanzania[12].

The primary aim of this report is to provide information on suppliers of products for the prevention, diagnosis and treatment of malaria and the prices of these products, in order to assist government and UN agencies to make decisions on the procurement of such products. Without this information, countries may end up paying more than necessary to obtain these essential products. It is hoped that this document will complement a similar one published jointly by UNICEF, UNAIDS, WHO and MSF that provides sources/prices data on HIV/AIDS diagnostics and medicines[13].

Information on sources and prices, although important, addresses only one barrier to access to malaria prevention and treatment products in poor countries. Readers will appreciate that other important issues such as health infrastructure, human resources, taxes, and supply and distribution systems must also be considered.

Figure 1: Malaria's global grip

Source: World Health Organization, 2002

1.3 Target audience

This publication is intended for use primarily by national procurement agencies of UN Member States and UN agencies in resource-limited countries which may lack easily accessible information on reliable sources and prices of products fundamental to prevent and treat malaria.

1.4 Generating the report

This report investigates the sources and prices of commodities commonly required for the prevention, diagnosis, and treatment of malaria, but are difficult to obtain locally. It is modelled on a similar report for HIV/AIDS entitled *Sources and Prices of Selected Medicines and Diagnostics for People Living with HIV/AIDS*.

The responses of 80 manufacturers in 20 different countries to a comprehensive questionnaire were the basis of this report. The number of manufacturers reached will be improved as more resources are made available through cooperation with international organizations and manufacturing associations, as well as the publication of an Expression of Interest (EOI) on partner websites. Participation in the survey remains voluntary and the information published depends greatly on manufacturer cooperation with regards to timely completion and return of the questionnaire along with associated documents.

The RBM Partnership Secretariat, UNICEF, WHO, PSI, and MSH have worked jointly to conduct a price survey and put together the results into a comprehensive publication, whilst respecting the manufacturers' requests for confidentiality with respect to their individual pricing information.

It must be pointed out that the companies included in this report have been screened only through the completeness of the requested documents they have provided, such as the questionnaire, a National GMP certificate, and associated documents relating to the company and their products. Inclusion in this report does not constitute pre-qualification or approval of any sort by the RBM Partnership Secretariat, UNICEF, WHO, PSI, or MSH. Only those products identified in Annex IV in bold and with an asterisk (*) have at the time of publication of this document been found acceptable in principle for procurement by UN agencies through the ongoing Pre-qualification Project (see Chapter 3).

Additional companies are sought for future updates of this publication. All interested companies can submit their expressions of interest by email to supply@unicef.org; or by fax to the Pharmaceuticals & Micronutrients Team, UNICEF Supply Division, Copenhagen, Denmark.

[12] Myhr K. Comparing Prices of Essential Drugs between Four Countries in East Africa and with International Prices (available at www.accessmed-msf.org)

[13] *Sources and Prices of Selected Medicines and Diagnostics for People Living with HIV/AIDS*. Geneva, WHO, 2003 (WHO/EDM/PAR/2003.7)

2. How to use this report

2.1 Information on prices of products for the prevention, diagnosis and treatment of malaria

Price information on antimalarial medicines, mosquito nets, diagnostics, insecticides, spray equipment and insecticides and drug resistance kits based on data obtained from the survey, is provided in Chapter 4. The official UN exchange rates for the month of February 2004 were used in currency conversions.

All prices listed in Chapter 4 are provided as statistical ranges that are explained below. Price ranges and how these prices are distributed serve as an indication of the prices a purchaser should aim for when planning procurement.

Most of the prices in this report are ex-works (EXW), free-on-board (FOB) or free carrier (FCA). They do not include the added cost of items such as freight, insurance, import duties or taxes. For this reason the prices quoted in this report cannot be compared with prices paid by consumers. Many countries continue to impose considerable import duties, tariffs and taxes. In addition, wholesale and retail mark-ups vary from one country to another. As a result, the ex-works price is often less than half the price paid by the consumer.

The following structure is used for reporting the price information in chapter 4:

(a) Product type (e.g. medicine)

(b) The number of manufacturers that gave an indicative price and the number of countries they represent

(c) The indicative price

unit

The price quoted relates to the unit described, e.g. if the unit is 'tab' the price quoted is for one single tablet.

max

The maximum price listed represents the highest price among products, with no differentiation among originator or generic products.

min

The minimum price listed represents the lowest price among products, with no differentiation among originator or generic products.

median

The median price is the middle price or, where there is an even number of prices listed, it is the mean of the two middle numbers. This means that half the prices quoted are above this median price, and the other half are below it.

(a)	(b)		(c)				
	Manufacturer		Indicative prices, US$				
Product type	N° of manuf	N° of countries	unit	max	min	median	25th perc

25th perc

The 25th percentile is the value point representing the first quartile of quoted prices in ascending order. It is used to give some indication of the dispersion of prices for a given product.

For example, if 4 suppliers were identified as manufacturers of primaquine 15 mg tablets, and the 25th percentile is US$ 0.011 per tablet: 1 out of the 4 (a quarter) of the manufacturers surveyed offer a price equal to or less than US$ 0.011.

2.2 Information on sources

Complete lists of manufacturers, their contact information, and the products for the prevention, diagnosis and treatment of malaria they manufacture are given in Chapter 5. Annex IV provides the registration status of antimalarial medicines and insecticides.

2.3 Theme of the report

Given the increasing number of new antimalarial products on the market, this report highlights the importance of quality assurance (see Chapter 3).

2.4 Selection of products for the prevention, diagnosis and treatment of malaria

Antimalarial medicines

The medicines included in the report were selected based on recommendations from available WHO treatment guidelines. More detailed information on policy recommendations is provided in Annex I. The list in chapter 4 is not intended to be exhaustive but to broadly cover the most commonly used antimalarial medicines or medicine categories, in order to promote that combined with their own resources, purchasing agencies can have at their disposal all medicines required for the treatment of malaria.

Mosquito nets

The list of mosquito nets included in the report was elaborated in consultation between RBM, WHO and UNICEF. The list is not intended to be exhaustive but to broadly cover the most commonly used mosquito nets for malaria preventions. More detailed information on policy recommendations is provided in Annex II.

Diagnostics

There are currently a number of suppliers of malaria rapid diagnostic test (RDT) kits known to WHO, many of whom have local distributors. Efforts were made to contact each of these suppliers in order to confirm the prices of their products. The price information obtained from the twelve companies that responded is provided in Chapter 4. Guidelines for use of malaria RDTs, including how to choose an appropriate RDT, can be found in Annex III.

Insecticides

The type of insecticides included in the report were selected based on recommendations from RBM and WHOPES on insecticides for malaria prevention and vector control.

Spray equipment

The types of products included in the report were selected based on recommendations from RBM and WHOPES on insecticide spraying equipment for malaria prevention and vector control.

Resistance test kits

Insecticide resistance

This report includes selected test kits containing laboratory items as well as insecticides (impregnated papers, solutions etc.) A more comprehensive list of prices and products (Supplies for Monitoring Insecticide Resistance in Disease Vectors Procedures and Conditions) as well as request procedures and forms can be obtained from the WHO web site (http://rbm.who.int) under Technical strategies: vector control.

Drug resistance (WHO test plates for in vitro assessment)

Information on pre-dosed plates for the assessment of in vitro susceptibility of the parasite to antimalarial medicines are also included in Chapter 4. These kits can only be supplied through the Vector Control Research Unit, Universiti Sains Malaysia, Penang, Malaysia, and according to the procedures described on the WHO web site. For more detailed information see http://www.who.int/csr/drugresist/malaria/en/plates.pdf), and chapter 5 for information on how to contact USM.

The reader should note that the lists of antimalarial medicines, mosquito nets, diagnostics, insecticides, spray equipment and resistance test kits provided here do not imply endorsement, certification or recommendation by WHO, Roll Back Malaria Partnership Secretariat, UNICEF, Population Services International and Management Sciences for Health of any company or products in preference to others that are not mentioned.

3. Quality Assurance

3.1 Registration of antimalarial medicines and insecticides

In order to guide procurement, governments must ensure that they have strong national drug regulatory authorities (DRAs) with a clear mandate and legal authority, appropriate organizational structure, adequate number of qualified staff, sufficient resources and a sustainable financing mechanism.

The primary objective is to safeguard public health by ensuring that all medicines and insecticides circulating in their markets meet appropriate standards of safety, quality and efficacy. Safety aspects cover potential or actual harmful effects; quality relates to development and manufacture; and efficacy is a measure of the beneficial effect of medicines and insecticides on patients.

To assist procurement agencies with regulatory aspects of importation and procurement of medicines and insecticides, Annex IV provides information on countries in which the majority of antimalarial medicines and insecticides listed in this report are currently registered. This information is provided by manufacturing companies, and is subject to change.

To improve the accuracy of this publication, DRAs are strongly encouraged to submit any known changes or corrections to the data provided, either by email to supply@unicef.org; or by fax to UNICEF Supply Division, Copenhagen, Denmark, +45 35 26 94 21.

3.2 Antimalarial medicines

Pre-qualification project for antimalarial medicines

The supply of antimalarial products that are effective and of assured quality has become a major concern at both international and country level. The recent awards of funding to national malaria programmes of a number of countries, some of which are planning to implement the use of new artemisinin-based combination antimalarial products, further indicates a need to identify sources of products of assured quality.

As was commenced for HIV/AIDS medicines in 2001, a Procurement, Quality and Sourcing Project: Access to Artemisinin-based Combination Antimalarial Drugs of Acceptable Quality was started by WHO in collaboration with other UN Organizations, such as UNICEF and UNDP, in April 2002 as part of the Roll Back Malaria project. This project aims to facilitate the procurement of artemisinin-based combination antimalarial medicines of assured quality. The assessment procedure consists of various components including:

- Evaluation of product data and information provided by manufacturers and suppliers, and
- Inspection of manufacturing sites.

This project evaluates pharmaceutical finished dosage forms in the treatment of malaria according to WHO recommended standards of safety, efficacy and quality, and compliance with good manufacturing practices (GMP).

A list of suppliers whose artemisinin-based combination antimalarial medicines have been found acceptable, in principle, for procurement by UN agencies is now available on the WHO web site. As of April 2004, 26 product dossiers for various products and dosage forms from several manufacturers were received and two of these products have been fully assessed and listed as prequalified products. The remaining products are currently under review. Interested readers are advised to access the list via the WHO website: http://mednet3.who.int/prequal/.

The survey on sources and prices of selected antimalarial medicines is an information service and not a prequalification service. Screening of the products included in this survey has been carried out as indicated in Chapter 1.4. This screening, however, in no way constitutes an active review of product quality. The artemisinin-based combination antimalarial medicines that have been evaluated under the project are marked in Annex IV of this document in bold and with an asterisk (*). Other products listed in this document should, in relation to purchase, be subject to quality assessment review under, e.g. the aforementioned Prequalification Project (see WHO Procedure for Assessing the Acceptability, in principle, of pharmaceutical products for purchase by UN organizations, available at: http://mednet3.who.int/prequal/).

3.3 Mosquito nets

Guidelines for quality control of mosquito nets

A complete procedure for quality control (QC) of netting materials, pre-treated or long lasting insecticidal nets (LLINs) is being developed by WHO. Currently, recommended specifications have been developed only for polyester netting material[14] and for polyethylene LLINs[15]. Specifications for polyester LLINs are not yet available.

QC would relate either to netting material and/or insecticide treatment and the sample size for QC is based on the number of nets in a consignment. The QC procedure for any consignment should include the following:

- Sampling. A random number of nets to be collected depending on the size of the order. An acceptable quality level is proposed, which is the number of samples which may not comply with specifications;
- Testing of insecticide content (conventional dipping and long lasting);
- LLINs. QC will be carried out according to interim or full specifications recommended by WHO once the product has been recommended by WHOPES and the specifications developed. Note that only those LLINs approved by WHOPES have been included in this document;
- QC for netting materials and packaging according to WHO recommended specifications, where available.

3.4 Diagnostic tests

A wide range of malaria RDTs have performed with high accuracy in laboratory and field-based studies, but several published studies indicate that sensitivity is significantly reduced under certain conditions. In particular, RDTs may be denatured by exposure to high temperature and humidity during transport and storage.

A system for checking the continued accuracy of malaria RDTs is essential. Good quality assurance (QA) includes careful purchasing, handling and training, in addition to testing of the product and user. QA should be an integral part of RDT budgets and implementation plans in the same way that it forms an important part of microscopy-based diagnosis. Monitoring should extend from testing at the time of purchase to testing and supervision at a peripheral level, and include monitoring of transport and storage. Responsibility for overseeing QA processes should be clearly defined and coordinated from a central level.

More details on the use of RDTs are provided in Annex III.

For further information, please refer to:

2003 Meeting Report. Malaria Rapid Diagnosis: Making it Work (WHO 2003).

Use of Malaria RDTs. www.wpro.who.int/rdt

3.5 Insecticides

The supply of pesticide products that are effective and of acceptable quality has become a major concern at both international and country level. Choosing a pesticide product is becoming increasingly difficult for non-specialists in ministries of health, aid organizations, NGOs, etc. With this in mind, WHO has published *Guidelines for the Purchase of Public Health Pesticides*[16], in order to guide governments of WHO Member States and procuring UN agencies through the main steps:

1. **Choosing an appropriate pesticide and formulation.** There are many publications on choice of pesticides and formulation, but a very useful one is *Malaria Vector Control – Decision Making Criteria and Procedures for Judicious Use of Insecticides*[17]. The document provides a list of insecticides recommended for malaria prevention and control (Tables 1-4) and guidelines for their safe and effective use.
2. **Choosing a good quality product.** WHO establishes and publishes recommended specifications for technical material and related formulations of pesticides used in public health programmes. WHO specifications are part of the International Code of Conduct on Distribution and Use of Pesticides and are available on the internet at www.who.int/ctd/whopes.

   From 2002, the development of WHO recommended specifications has followed the **new procedure**, described in the first edition of *Manual for Development and Use of Food and Agriculture Organization (FAO) and WHO Specifications for Pesticides* (2002)[18]. This new Procedure follows a formal and transparent evaluation process. It describes the minimum data package, the procedure and evaluation applied by WHO and the experts of the FAO/WHO Joint Meeting on Pesticide Specifications (JMPS).

[14] http://mosquito.who.int/cmc_upload/0/000/012/756/netspex.pdf

[15] http://www.who.int/ctd/whopes/docs/OlysetInterimSpecification.pdf

[16] http://www.who.int/ctd/whopes/docs/PurchaseGuidelinesRev.pdf

[17] http://www.who.int/ctd/whopes/docs/JudiciousUseRev.pdf

[18] http://www.who.int/ctd/docs/whopes/new_docs/FAO_WHO_Manual.pdf

Specifications prepared according to the earlier procedures were applied to all products which were nominally similar, i.e. for a defined active ingredient, the specification applied to all products containing that active ingredient, providing they were of the appropriate formulation type. However, under the 'new' procedures the WHO specifications do not necessarily apply to nominally similar products of other manufacturer(s), nor to those where the active ingredient is produced by other routes of manufacture. WHO has the possibility to extend the scope of the recommended specifications to similar products but only when the JMPS has been satisfied that such products are equivalent to that which formed the basis of the reference specification. The data package requirements and procedure for determination of equivalence is provided in the above-mentioned FAO/WHO Manual. The specifications developed under the old procedures remain in force until they are reviewed using the current procedures.

For products for which WHO recommended specifications have been developed under the **old procedure**, purchasers should ask suppliers or manufacturers if the product they are offering conforms to the corresponding WHO specification. If unable or unwilling to guarantee conformity and compliance to these specifications, purchasers may wish to reject a product. Specifications developed under the **new procedure** are, however, linked to the product of the manufacturer(s) providing the data package. The list of WHO specifications for review/development under the new procedure and the name of the proposer are available at http://www.who.int/ctd/whopes/JMPS.htm.

3. **Checking product on delivery.** When a product is delivered, or preferably before shipment, it is strongly recommended to take random samples (see WHO sampling procedures[19]) and send them to independent analytical laboratories to ensure conformity to the recommended specifications. WHO has a unit dedicated to the evaluation of pesticides for public health use. It provides guidance to national health authorities, national and international organizations involved in vector and pest control.

For further information/assistance contact
WHO Pesticide Evaluation Scheme (WHOPES).

3.6 Insecticide spraying equipment

Choice of equipment must be consistent with the recommended method of control, and is dependent on the physical nature of the formulation of the recommended pesticide.

WHO has established recommended specifications for hand-operated compression sprayers as well as other pesticide application equipment for vector control with the objective that these specifications may be used to provide an international point of reference against which pesticide application equipment can be judged either for regulatory purposes or in commercial dealings. WHO recommended specifications for spraying equipment are available in WHO Manual (1990), Equipment for Vector Control[20]. The WHOPES pictorial manual for indoor residual spraying[21] provides recommended procedures for safe and effective application of residual sprays for vector control, as well as maintenance of equipment, trouble shooting and preparation of insecticide spray. The WHOPES Practitioner's guide[22] on space spray application of insecticides for vector control and public health pest control provides information on space spray equipment as well as the operation guidelines for space spray treatment.

3.7 Resistance test kits

Insecticide resistance

For WHO programmes, the usual procurement channels should be utilized. Requests for procurement must be sent through the relevant WHO Country Representatives (WR), or WHO Regional Offices or the respective units at WHO headquarters. Requests from other parties should be made directly to the Coordinator, Vector Control Research Unit, School of Biological Sciences, Universiti Sains Malaysia. See Chapter 5 for information on how to contact USM.

An invoice is provided on request and goods shipped once funds have been transferred.

Drug resistance

The most commonly used methods for antimalarial in vitro testing are the in vitro micro-test Mark III the isotopic test and drug sensitivity assay based on the measurement of HRP2/or pLDH/ in an enzyme-linked immunosorbent assay (ELISA). Predosed plates for test in vitro susceptibility are available for the following medicines:

- Chloroquine
- Quinine
- Dihydroartemisinin
- Mefloquine
- Monodesethylamodiaquine

[19] http://www.who.int/ctd/docs/whopes/new_docs/methods_specs/methodm1.pdf

[20] http://whqlibdoc.who.int/publications/1990/9241544031.pdf

[21] http://www.who.int/ctd/whopes/docs/irs_manual.pdf

[22] http://www.who.int/ctd/whopes/docs/Brochure_Space.pdf

4. Prices of products for the prevention, diagnosis and treatment of malaria

4.1 Antimalarial medicines

Medicine	Manufacturer		Indicative Prices, US$				
	N° of manuf	N° of countries	unit	max	min	median	25 perc
amodiaquine							
tablet, 153 mg (base)	5	4	tab	0.080	0.009	0.017	0.011
tablet, 200 mg (base)	5	3	tab	0.022	0.009	0.015	0.012
artemether							
injection 80 mg/ml in 1-ml ampoule	3	2	ml	2.342	0.192	0.222	0.207
tablet or capsule, 40 mg	1	1	tab	0.175	0.175	0.175	0.175
artemether + lumefantrine							
tablet, 20 mg + 120 mg	1	1	tab	0.15	0.1	0.111	0.104
artesunate							
tablet, 50 mg	5	4	tab	1.748	0.067	0.112	0.097
tablet, 200 mg	1	1	tab	0.541	0.415	0.437	0.426
artesunate + amodiaquine							
tablet, 50 mg + 150 mg, co-packaged	1	1	tab	0.086	0.056	0.066	0.059
tablet, 50 mg + 250 mg, co-packaged	1	1	tab	0.075	0.062	0.062	0.062
artesunate + mefloquine							
tablet, 50 mg + 250 mg, co-packaged	2	2	tab	0.361	0.144	0.253	0.198
tablet, 200 mg + 250 mg, co-packaged	1	1	tab	0.645	0.624	0.635	0.629
chloroquine							
injection, 40 mg base (as hydrochloride, phosphate or sulphate)/ml in a 5-ml ampoule	4	4	ml	0.042	0.013	0.019	0.016
syrup, 50 mg base (as phosphate or sulphate)/5 ml	6	4	ml	0.013	0.004	0.006	0.004
tablet, 100 mg base (as phosphate or sulphate)	7	6	tab	0.065	0.004	0.005	0.005
tablet, 150 mg base (as phosphate or sulphate)	12	8	tab	0.187	0.004	0.008	0.006
155 mg base (as phosphate)	2	2	tab	0.005	0.005	0.005	0.005
doxycycline							
capsule or tablet, 100 mg (as hydrochloride)	6	5	cap, tab	0.100	0.009	0.013	0.012
mefloquine							
tablet, 250 mg (as hydrochloride)	6	4	cap, tab	0.867	0.266	0.479	0.442
primaquine							
tablet, 7.5 mg	2	2	tab	0.011	0.008	0.010	0.009
tablet, 15 mg (as diphosphate)	4	4	cap, tab	0.015	0.010	0.013	0.011

Medicine	Manufacturer		Indicative Prices, US$				
	N° of manuf	N° of countries	unit	max	min	median	25 perc
proguanil							
tablet, 100 mg (as hydrochloride)	2	2	tab	0.033	0.024	0.029	0.026
quinine							
injection, 300mg/ml (as dihydrochloride) in a 2-ml ampoule	7	5	ml	0.440	0.017	0.083	0.065
tablet, 200 mg	1	1	tab	0.021	0.021	0.021	0.021
tablet, 300 mg (as bisulfate or sulfate)	10	7	cap, tab	0.077	0.022	0.027	0.024
sulfadoxine + pyrimethamine							
tablet, 500 mg + 25 mg	10	7	tab	0.060	0.014	0.020	0.017

4.2 Mosquito nets

***Recommendation:** Control programmes and institutional buyers are advised, whenever possible, to avoid the purchase of factory pre-treated nets unless they are of the long-lasting insecticidal nets type (LLIN) recommended by WHO.

Mosquito nets	Manufacturer		Indicative prices, US$			
	N° of companies	N° of countries	max	min	median	25 perc
Netting material						
Netting material, polyester 100%, multifilament, roll 1x25 m, 100 den.	4	2	7.50	5.70	6.00	5.85
Netting material, polyester 100%, multifilament, roll 1x25 m, 75 den.	4	2	6.25	4.00	4.60	4.30
Non-impregnated mosquito nets						
130x180x150cm (HxLxW), 100 den.	9	5	3.20	1.62	1.78	1.65
130x180x150cm (HxLxW), 75 den.	11	7	3.25	1.40	1.60	1.50
150x180x160cm (HxLxW), 100 den.	9	5	3.70	1.74	1.95	1.75
150x180x160cm (HxLxW), 75 den.	11	7	3.95	1.45	1.75	1.53
150x190x180cm (HxLxW), 100 den.	9	5	3.95	1.88	2.18	2.01
150x190x180cm (HxLxW), 75 den.	11	7	3.90	1.58	1.91	1.83
Conical, 1250x250cm, 100 den.	9	5	7.50	3.13	4.10	3.78
Conical, 1250x250cm, 75 den.	10	7	5.60	2.45	3.35	2.98
Conical, 850x220cm, 100 den.	9	5	5.65	2.34	3.12	2.65
Conical, 850x220cm, 75 den.	10	7	4.25	2.00	2.75	2.25
Long-lasting insecticide nets (LLINs)						
150x180x160 (HxLxW), polyethylene, 150 den.	2	2	6.00	5.45	5.73	5.59
150x180x160 (HxLxW), polyester, 100 den.	1	1	4.80	4.80	4.80	4.80
150x180x160 (HxLxW), polyester, 75 den.	1	1	4.58	4.58	4.58	4.58
150x190x80 (HxLxW), polyester, 100 den.	1	1	3.67	3.67	3.67	3.67
150x190x80 (HxLxW), polyester, 75 den.	1	1	3.52	3.52	3.52	3.52

Mosquito nets	Manufacturer		Indicative prices, US$			
	N° of companies	N° of countries	max	min	median	25 perc
Conical, 1250x250cm, polyethylene, 150 den.	1	1	9.95	9.95	9.95	9.95
Conical, 1250x250cm, polyester, 100 den.	1	1	8.27	8.27	8.27	6.83
Conical, 1250x250cm, polyester, 75 den.	1	1	7.92	7.92	7.92	7.92
Conical, 850x220cm, polyethylene, 150 den.	1	1	7.40	7.40	7.40	7.40
Conical, 850x220cm, polyester, 100 den.	1	1	5.44	5.44	5.44	8.27
Conical, 850x220cm, polyester, 75 den.	1	1	5.22	5.22	5.22	5.22

Set packed net (net + insecticide kit)	Deltamethrin kit				Alphacypermethrin kit				Lambda-cyhalothrin kit			
	N° of com-panies	max	min	median	N° of com-panies	max	min	median	N° of com-panies	max	min	median
130x180x150cm (HxLxW), 100 den.	5	3.5	2.26	3.05	2	2.23	2.06	2.14	1	2.26	2.26	2.26
130x180x150cm (HxLxW), 75 den.	5	2.85	1.92	2.76	2	1.98	1.72	1.85	2	2.22	1.92	2.00
150x180x160cm (HxLxW), 100 den.	5	4.00	2.49	3.32	2	2.33	2.29	2.31	1	2.49	2.49	2.49
150x180x160cm (HxLxW), 75 den.	5	3.2	2.05	2.93	2	2.05	1.85	1.95	2	2.3	2.05	2.18
150x190x180cm (HxLxW), 100 den.	5	4.25	2.70	3.56	2	2.56	2.5	2.53	1	2.76	2.76	2.76
150x190x180cm (HxLxW), 75 den.	5	3.40	2.28	3.25	2	2.33	2.08	2.20	2	2.47	2.28	2.38
Conical, 1250x250cm, 100 den.	5	7.80	3.78	2.51	2	3.75	3.58	3.66	1	3.78	3.78	3.78
Conical, 1250x250cm, 75 den.	5	5.90	3.10	2.40	2	3.50	2.90	3.20	2	3.26	3.10	3.18
Conical, 850x220cm, 100 den.	5	5.95	3.08	2.74	2	3.23	2.88	3.05	1	3.08	3.08	3.08
Conical, 850x220cm, 75 den.	5	4.55	2.58	2.45	2	2.97	2.38	2.67	1	2.58	2.58	2.58

4.3 Diagnostic Tests

	Antigen-detecting tests							
	P. falciparum only (HRP2-detecting)							
Manufacturer or distributor	Cellabs Pty Ltd	Core Diagnostics	Human GmbH	ICT Diagnostics	Omega Diagnostics	Orchid Biomedical Systems	Plaza Diagnostics	Span Diagnostics
Product name	Rapimal™ P.f. Malaria	Core™ Malaria	Hexagon Malaria	P.f. Strips or Cassettes	Visitec Malaria Pf	Paracheck Pf	Smart Check Malaria Pf	ParaHIT f
Test type	Cassette & dipstick	Cassette	Strip	Strip or Cassette	Cassette	Strip or Cassette	Strip	Card or strip
Detection system: type of dye label	colloidal gold	colloidal gold	colloidal gold	colloidal gold	colloidal gold	colloidal gold	colloidal gold	colloidal gold
Specimen	Whole blood, serum and plasma	Whole blood	Whole blood (capillary or venous blood)	Whole blood. Fresh or stored for up to 3 days.	Venous blood	Whole blood	Whole blood	Whole blood (capillary or venous blood)
Results	Test line appears if P.falciparum is detected	Test line appears if P.falciparum is detected	Test line appears if P.falciparum is detected	Test line appears if P.falciparum is detected	Test line appears if P.falciparum is detected	Test band appears if P.falciparum is detected	Test line appears if P.falciparum is detected.	Test band forms if P. falciparum is detected.
Test duration	10-15 minutes	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes
No. of tests/kit	25 (cassettes), 50 (dipsticks)	25	20	25	25	n.a	25	10 or 50
Cost per test, US$	0.80 – 1.40 depending on volumes and formats (cassettes or dipstick)	0.60	0.70	Strip test: 0.60 – 0.69 Cassette test: 0.69 – 0.77	1.00	Strip test: 0.55 Device test: 0.62	1.32	Strip test: 0.45 or Card test: 0.55
Storage temperature	4 – 30°C	4 – 30°C	2 – 25°C	15 – 30°C	4 – 30°C	4 – 30°C	4 – 28°C	4 – 30°C

	Antigen-detecting tests					
	P. falciparum and pan-specific (HRP2, other antigens)					P. falciparum and pan-specific (pLDH-detecting)
Manufacturer or distributor	Binax	Core Diagnostics	Globalemed, LLC	ICT Diagnostics	Zephyr Biomedicals	Standard Diagnostics, Inc
Product name	NOW® Malaria	Core™ Malaria	Smart Strip Malaria Combo Test	Combo Cassettes P.f/P.v/P.m/P.o	Parascreen	SD Bioline Malaria Antigen
Test type	Card	Cassette	Strip	Cassette	Cassette	Strip
Detection system: type of dye label	colloidal gold	colloidal gold	purple latex	colloidal gold	colloidal gold	colloidal gold
Specimen	Whole blood	Whole blood	Whole blood	Whole blood	Whole blood	Human serum, plasma, whole blood

	Antigen-detecting tests					
	P. falciparum and pan-specific (HRP2, other antigens)					P. falciparum and pan-specific (pLDH-detecting)
Results	Test line forms if P.falciparum, P.vivax, P. malariae, or P. ovale are detected.	Test line forms if P.falciparum, P.vivax, P. malariae, or P. ovale are detected.	Test line forms if P.falciparum, P.vivax, P. malariae, or P. ovale are detected.	One test line forms if P.falciparum is detected, and another line forms if P.vivax, P. malariae, or P. ovale are detected.	Test band forms if P.falciparum, P.vivax, P. malariae, or P. ovale are detected.	Test line forms if P.falciparum, P.vivax, P. malariae, or P. ovale are detected.
Test duration	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes
no. tests/kit	25	25	25	25	15	16 or 48
Cost per test, US$	2.60	1.50	2.50	1.15	1.00	0.61
Storage temperature	2 – 30°C	4 – 30°C	2 – 30°C	15 – 30°C	2 – 30°C	

4.4 Insecticides

Insecticides for mosquito net impregnation	Manufacturer	Indicative Prices, US$		
	N° of companies	max	min	median
Single dose				
Alphacypermethrin dose				
Non specified	1	0.25	0.25	0.25
5-ml sachet	1	0.30	0.30	0.30
6-ml sachet	1	0.33	0.33	0.33
Cyfluthrin dose				
5% EW, 20-ml sachet	1	0.55	0.55	0.55
Deltamethrin dose				
Non specified	1	0.35	0.35	0.35
40-ml sachet (1.0% SC)	1	0.45	0.45	0.45
1.6 g tablet	1	0.50	0.50	0.50
Lambda-cyhalothrin dose				
Non specified	1	0.65	0.65	0.65
Kit				
Alphacypermethrin Kit				
Non specified	1	0.55	0.55	0.55
6-ml sachet	1	0.33	0.33	0.33
Cyfluthrin Kit				
5% EW, 20-ml sachet	1	0.80	0.80	0.80
Deltamethrin Kit				
1.0% SC 40-ml sachet	1	0.70	0.70	0.70
25%, 1.6 g tablet	1	0.75	0.75	0.75
Lambda-cyhalothrin Kit				
Non specified		0.85	0.85	0.85
Insecticide in bulk				
Alpha-cypermethrin SC 10%	6	21.25	4.80	7.00
Alpha-cypermethrin SC 6%	3	18.50	7.00	7.00
Cyfluthrin EW 5%	5	20.00	2.95	8.50
Deltamethrin 2.5% SC	5	25.00	6.55	12,11
Deltamethrin 1% SC	4	18.00	3.60	7.95
Deltamethrin 25% WT	2	38.5	22	30.25
Etofenprox EW 10%	2	17.00	15.25	16.125
Lambda-cyhalothrin CS 2.5%	1	45.00	45.00	45.00
Permethrin EC 10%	6	5.50	1.20	3.95
Permethrin EC 20%	1	35.46	35.46	35.46
Permethrin EC 55% (for professional users only)	1	80.00	80.00	80.00

Different concentrations mentioned in the tables

CS = capsule suspension (price per litre)
EC = emusifiable concentrate (price per litre)
EW = emulsion, oil in water (price per litre)
GR = granule (price per kg)
SC = suspension concentrate (price per litre)
WG = water dispersible granule (price per kg)
WP = wettable powder (price per kg)

Insecticides for outdoor spraying	Manufacturer	Indicative Prices, US$		
	N° of companies	max	min	median
Organophosphates				
Fenitrothion (250 – 300 g/ha active ingredient)				
50% EC	4	11.00	3.90	6.15
Malathion (112 – 600 g/ha active ingredient)				
57% EC	2	3.45	2.50	2.98
50% EC	3	5.35	2.18	3.15
40% EC	1	9.25	9.25	9.25
Pirimiphos-methyl (250 g/ha active ingredient)				
25% EC	1	7.50	7.50	7.50
50% EC	3	18.00	8.78	8.80
Pyrethroids				
Cyfluthrin (1 – 6 g/ha active ingredient)				
5% EC	3	7.50	4.50	5.00
1% EC	1	0.60	0.60	0.60
Deltamethrin (0.5 – 1.0 g/ha active ingredient)				
2.5% EC	5	7.80	4.00	5.00
Lambda-cyhalothrin (1.0 g/ha active ingredient)				
Non specified	1	18.00	18.00	18.00
Permethrin (5 – 10 g/ha active ingredient)				
5% EC	1	1.20	1.20	1.20
10% EC	2	3.50	3.00	3.25
50% EC	1	12.00	12.00	12.00
Resmethrin (2 – 4 g/ha active ingredient)				
5% EC	1	8.65	8.65	8.65

Insecticides for indoor residual spraying	Manufacturer	Indicative Prices, US$		
	N° of companies	max	min	median
Carbamates				
Bendiocarb WP (0.1 – 0.4 g/m² active ingredient)				
Sachet 125 g	1	9.00	9.00	9.00
80% WP	1	46.00	46.00	46.00
Proporxur WP (0.1 – 0.4 g/m² active ingredient)				
20% WP	2	30.84	4.5	17.67
80% WP	1	18.80	18.80	18.80
Organophosphates				
Fenitrothion WP (2 g/m² active ingredient)				
25% WP	1	3.25	3.25	3.25
40% WP	2	11.00	3.80	7.40

Insecticides for indoor residual spraying	Manufacturer	Indicative Prices, US$		
	N° of companies	max	min	median
Malathion WP (2 g/m² active ingredient)				
50% WP	4	4.05	2.50	3.43
Pirimiphos-methyl WP and EC (1 – 2 g/m² active ingredient)				
25% EC	1	7.50	7.50	7.50
50% EC	1	18.00	18.00	18.00
25% WP	1	4.95	4.95	4.95
50% WP	1	8.78	8.78	8.78
Organochlorines				
DDT WP (1 – 2 g/m² active ingredient)				
75% WP	3	3.50	2.50	3.00
Pyrethroids				
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)				
6% SC	1	17.50	5.00	11.25
10% SC	2	8.00	3.90	5.95
5% WP	3	17.50	2.75	12.00
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)				
5% WP	3	11.00	5.50	9.90
10% WP	1	9.30	9.30	9.30
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)				
2% WP	1	2.00	2.00	2.00
5% WP	2	6.40	5.50	5.95
Sachet 40 g – WP	1	5.00	5.00	5.00
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)				
1% WP	1	4.00	4.00	4.00
2.5% WP	1	4.00	4.00	4.00
5% WP	2	12.00	7.00	9.50
Tablet, 25%	1	0.25	0.25	0.25
Sachet 20 g – 250 WG	1	4.00	4.00	4.00
Sachet 80 g – 50 WP	1	4.50	4.50	4.50
Etofenprox WP (0.01 – 0.3 g/m² active ingredient)				
2.5% WP	1	3.90	3.90	3.90
10% WP	1	17.00	17.00	17.00
Lambda-cyhalothrin WP (0.02 – 0.03 g/m² active ingredient)				
Water soluble sachets (10% WP), 1 kg	1	72.00	72.00	72.00

Different concentrations mentioned in the tables

CS = capsule suspension (price per litre)
EC = emusifiable concentrate (price per litre)
EW = emulsion, oil in water (price per litre)
GR = granule (price per kg)
SC = suspension concentrate (price per litre)
WG = water dispersible granule (price per kg)
WP = wettable powder (price per kg)

Insecticides for indoor residual spraying	Manufacturer	Indicative Prices, US$		
	N° of companies	max	min	median
Oils				
Fuel Oil solution (142 – 190 l/ha active ingredient)	No quotations for this product			
Fuel Oil + spreading agent solution (19 – 47 l/ha active ingredient)	No quotations for this product			
Organophosphates				
Chlopyriphos EC (11 – 25 g/ha active ingredient)				
40% EC	2	7.30	7.30	7.30
Fenthion EC (22 – 112 g/ha active ingredient)				
50% WP	2	6.20	4.50	5.35
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)				
25% EC	1	7.50	7.50	7.50
50% EC, 1 litre	3	18.00	8.78	8.80
Temephos EC, GR (56 – 112 g/ha active ingredient)				
1% GR	4	10.25	1.4	1.925
20% EC	1	12.20	12.20	12.20
50% EC	5	53.22	12.50	15.00
Insect growth regulators				
Diflubenzuron GR (25 – 100 g/ha active ingredient)				
2% GR	2	22.00	11.00	16.00
25% WP	1	55.00	55.00	55.00
15% SC	1	37.50	37.50	37.50
25% SC	1	20.00	20.00	20.00
Methoprene EC (20 – 40 g/ha active ingredient)				
2% EC	1	17.85	17.85	17.85
Pyriproxyfen GR (5 – 10 g/ha active ingredient)				
5% GR	2	18.75	16	17.375
10% EC	1	13.60	13.60	13.60
Microbial insecticides				
B. thurigiensis WG (dosage will depend on formulation used)				
Not specified	2	2.50	2.15	2.33

Different concentrations mentioned in the tables

CS = capsule suspension (price per litre)
EC = emusifiable concentrate (price per litre)
EW = emulsion, oil in water (price per litre)
GR = granule (price per kg)
SC = suspension concentrate (price per litre)
WG = water dispersible granule (price per kg)
WP = wettable powder (price per kg)

4.5 Insecticide spraying equipment

Spraying equipment	N° of companies	Indicative Prices, US$ max	min	median
Hand-operated compression sprayers				
Not specified	2	150.00	75.00	112.50
Capacity: 1.5 l. Net weight: 0.30 kg	1	10.92	10.92	10.92
Capacity: 9 l. Net weight: 1.65 kg	1	37.14	37.14	37.14
Capacity: 8 – 10 l. Net weight: 5.8 – 6.4 kg	1	140.00	140.00	140.00
Capacity: 9 l. Net weight: 2.15 kg	1	42.46	42.46	42.46
Capacity 10 l. Max operating pressure: 6 bars	1	105.00	105.00	105.00
Capacity 10 l. Max operating pressure: 6 bars	1	122.00	122.00	122.00
Capacity 5 l. Max operating pressure: 6 bars	1	108.50	108.50	108.50
Capacity: 10 l. Net weight: 5 kg	1	168.00	168.00	168.00
Capacity: 5 l. Net weight: 3.5 kg	1	143.00	143.00	143.00
Backpack motorized mistblowers				
Capacity: 14 l. Net weight 10 kg	1	340.00	340.00	340.00
Hand-carried thermal foggers (ULV)				
Not specified	2	1000.00	850.00	925.00
Capacity: 5 l. Net weight: 7 kg	1	850.00	850.00	850.00
Capacity: 5.7 l.	1	840.00	840.00	840.00
Capacity: 10 l.	1	989.00	989.00	989.00
Capacity: 5.7 l. Stainless steel	1	1511.00	1511.00	1511.00
Capacity: 10 l. Stainless steel	1	1660.00	1660.00	1660.00

4.6 Resistance test kits

4.6.1 Insecticide resistance kits

		Price per unit, US$
A. Insecticide impregnated papers (boxes) – with 8 papers per box		
1. DDT	4.0%	12.00
2. Dieldrin	0.4%, 4.0%	12.00
3. Control in Risella oil (OC control)		12.00
4. Malathion	5.0%	18.00
5. Fenitrothion	1.0%	18.00
6. Propoxur	0.1%	18.00
7. Bendiocarb	0.1%	18.00
8. Control in olive oil (OP/C control)		18.00
9. Permethrin	0.75%	18.00
10. Deltamethrin	0.05%	18.00

		Price per unit, US$
11. Lambdacyhalothrin	0.05%	18.00
12. Cyfluthrin	0.15%	18.00
13. Etofenprox	0.5%	18.00
14. Control in silicone oil (PY control)		18.00
B. Other items		
15. Adult mosquito (diagnostic) test kit (WHO/VBC/81.806)		42.00
16. Adult mosquito (base-line) test kit (WHO/VBC/81.807)		60.00
17. Bioassay kit (VBC/81.5)		42.00
18. Aspirators (straight)		3.00
19. Aspirators (bent)		5.00
20. Bioassay cones (conical chamber)		0.60
21. Test tube for adult mosquitos – 1 tube with red dot (exposure), 1 tube with green dot (holding) and 1 slide		8.00
22. Metal clip (copper) – exposure tube		0.50
23. Metal clip (silver) – holding tube		0.50
C. Other relevant test kits available		
32. Mosquitos (Larvae) WHO/VBC/81.807		33.00
33. Mosquitos (Larvae resistance to development inhibitors) WHO/VBC/81.812		59.00

4.6.2 Drug resistence kits

Drug name and number	Number of plates per drug		
	> 20	11 – 20	5 – 10
1. Chloroquine	Price US$ 8	Price US$ 9	Price US$ 10
2. Quinine			
3. Dihydroartemisinin			
4. Mefloquine			
5. Mono-desethyl-amodiaquine			

5. Index of Manufacturers

5.1 Antimalarial medicines

Company	Address	Telephone	Fax	E-mail	Website	Products
Alpharma	Jl Raya Bogor Km 28, Jakarta, 13710, Indonesia	+62 218 710 311	+62 218 710 044	herny.prasetya@alpharma.no	N/A	doxycycline, chloroquine, sulfadoxine + pyrimethamine
Artesan Pharma GmbH & Co. KG, Export Office	Osterbrooksweg 15, 22869 Schenefeld, Germany	+49 4054 2270	+49 4054 2283	j.ahlers@pharma-aid.de	www.pharma-aid.de	artesunate, mefloquine, primaquine, quinine, sulfadoxine + pyrimethamine
Aventis Intercontinental	20, avenue Raymond Aron / Tri E1/360, 92165 Antony Cedex, France	+33 155 717 637	+33 155 717 447	sandrine.girardot@aventis.com	www.aventis.com	amodiaquine, artemether, chloroquine
Bayer Healthcare AG	Kaiser-Wilhelm-Allee, Building Q30, 51368 Leverkusen, Germany	+49 2143 024 558	+49 2143 058 075	Michaela.Oxfort@bayerhealthcare.com	www.bayerhealthcare.com	chloroquine
Beltapharm Sp.A.	Via Stelvio, 66, Cusano Milanino-Milan, 20095 Italy	+39 02664 01 216	+39 02619 67 14	info@beltapharm.com	www.beltapharm.com	chloroquine
Biologici Italia Laboratories	Via Cavour 41/43, 20026 Novate Milanese, Milan Italy	+39 023 548 451	+39 023 542 956	biologici@tiscali.it	www.bilitalia.com	quinine
Cipla Ltd	296, Belasis Road, Mumbai Central, Mumbai 400 008, India	+91 2223 082 891	+91 2223 070 013	ciplaexp@cipla.com	www.cipla.com	amodiaquine, artesunate, artesunate + mefloquine, artesunate + amodiaquine, chloroquine, doxycycline, mefloquine
Ecobi Farmaceutici S.A.S	Via E. Bazzano, 26, 16019 Genova, Italy	+39 010 935 280	+39 010 935 0679	ecobi@aleph.it	N/A	chloroquine
Glaxosmithkline Export Ltd	CS6-101, 980 Great West Road, Brentford Middlesex, TW8 9GS, United Kingdom	+44 20 8047 2541	+44 20 8047 0666	isabelle.m.fallon@gsk.com	www.gsk.com	amodiaquine, chloroquine, sulfadoxine + pyrimethamine
Hovid Berhad	121 Jalan Kuala Kangsar 30010, Ipoh, Perak Malaysia	+60 5506 0690	+60 5506 1215	clee@hovid.com	www.hovid.com	doxycycline

Company	Address	Telephone	Fax	E-mail	Website	Products
Intas Pharmaceuticals Ltd	2nd Floor, Chinubhai Center, Off. Nehru Bridge, Ashram Road Ahmedabad, 380 009 India	+91 796 576 655	+91 796 578 862	intlenquiry@intaspharma.com	www.intaspharma.com	artemether, chloroquine, doxycycline, mefloquine, quinine, sulfadoxine + pyrimethamine
Ipca Laboratories Ltd	48, International House Kandivli Industrial Estate Mumbai, 400 067, India	+91 2868 2030	+91 2868 8561	ipca@ipca.co.in	www.ipca-labs.com	amodiaquine, artemether, artesunate, artesunate + amodiaquine, chloroquine, mefloquine, quinine, sulfadoxime + pyrimethamine
Laboratoire Renaudin	125 Bureaux de la Colline (Export. Dept.) 92213, Saint Cloud, France	+33 141 120 382	+33 141 120 377	fpetit@labo-renaudin.com	www.labo-renaudin.com	chloroquine, quinine
Laboratorio Farmacologico Milanese s.r.l.	Via Monterosso, 247 21042, Milan, Italy	+39 02 9645 0181	+39 02 9645 0967	m.ceriani@lfm.it	www.lfm.it	chloroquine, doxycycline
Lachifarma	S.S. 16 Zona Industriale, 73010, Zollino, Lecce Italy	+39 0836 600 661	+39 0836 600 662	info@lachifarma.com	www.lachifarma.com	amodiaquine, chloroquine, mefloquine, primaquine, proguanil, quinine
Lyka Labs Ltd	77, Nehru Road, Vile Parle-East, Mumbai 400099, India	+91 222 610 5900	+91 222 611 1024	lykaexports@rediffmail.com	www.lykalabs.com	doxycycline, quinine, sulfadoxine + pyrimethamine
Mepha Ltd	Dornacherstrasse 114 4147 Aesch, Switzerland	+41 617 054 343	+41 617 054 338	info@mepha.ch	www.mepha.ch	artesunate, mefloquine , artesunate + mefloquine
Monico Sp.A.	Via Ponte di Pietra 7 30173, Venezia/Mestre Italy	+39 0412 696 911	+39 0412 696 969	info@monico.it	www.monico.it	quinine
Novartis Pharma AG	Lichstrasse 35, 4056 Basel, Switzerland	+41 613 241 111	+41 613 248 001	daniela.currie@pharma.novartis.com	www.pharma.novartis.com	artemether + lumefantrine
Pharmamed Ltd	B16, Bulebel Industrial Estate, Zejtun, ZTN 08 Malta	+35 621 693 533	+35 621 693 604	dfarrugia@pharmamed.com.mt	www.pharmamed.com.mt	chloroquine, primaquine, quinine, sulfadoxine + pyrimethamine
Pharmatex Italia Sr.l.	Via Appiani, 22, Milan 20121, Italy	+39 0229 000 410	+39 0265 3662	info@pharmatex.it	www.pharmatex.it	chloroquine, quinine
Purna Pharmaceuticals NV	Rijksweg 17, 28700 Puurs, Belgium	+32 3886 0085	+32 3886 2538	info@purna.be	www.purna.be	chloroquine
Rekah Pharmaceutical Industry Ltd	30 Hamelacha St. Holon, 58859, Israel	+97 235 581 233	+97 235 565 919	rite@rekah.co.il	www.rekah.co.il	quinine

Company	Address	Telephone	Fax	E-mail	Website	Products
Remedica Ltd	Limassol Industrial Estate, Aharnon St., P.O. Box 51706, 3508 Limassol, Cyprus	+35 725 393 444	+35 725 390 192	remedica@cytanet.com.cy	www.remedica.com.cy	amodiaquine, chloroquine,primaquine, proguanil, quinine, sulphadoxine + pyrimethamine
Rosemont Pharmaceuticals Ltd	Rosemont House Yorkdale Industrial Park Braithwaite Street, Leeds, LS11 9XE United Kingdom	+44 1132 441 400	+44 1132 453 567	john.blythe@rosemontpharma.com	www.rosemontpharma.com	chloroquine
Rotexmedica Gmbh	Bunsenstrasse 4, 22946 Trittau, Germany	+49 4154 862 130	+49 4154 862 155	orunge@rotexmedica.com	www.rotexmedica.com	quinine
Sanavita Aktiengesellschaft & Co.	Am Bahnhof 1-3, 59368 Werne, Germany	+49 2389 797 232	+49 2389 797 259	info@sanavita.net	www.sanavita.net	chloroquine
Sanofi-Synthelabo	82 Avenue Raspail 94255 Gentilly Cedex, France	+33 141 24 70 53	+33 141 24 56 57	rene.cazetien@sanofi-synthelabo.com	www.sanofi-synthelabo.com	artesunate
Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Seif Street, 9th Branch Bldg. Nr 7, P.O. Box 4265, Sana'a, Yemen	+96 7121 8451	+96 7121 8454	Shiba@y.net.ye	N/A	chloroquine, doxycycline, pyrimethamine, sulfadoxine + pyrimethamine
Strides Arcolab Ltd	Strides House, Bilekahalli, Bannerghatta Road, Bangalore 560 076, India	+91 806 581 343	+91 806 583 538	aloka@stridesarco.com	www.stridesarco.com	amodiaquine, artemether, chloroquine, quinine, sulfadoxine + pyrimethamine
The Government Pharmaceutical Organization	75/1 Rama VI Rd. Ratchathewi, Bangkok 10400 Thailand	+662 248 1482	+662 248 1488	shum@health.moph.go.th	N/A	quinine
Valeant	Tiszavasvári, Kabay J.u.29., 4440, Hungary	+36 1345 5916	+36 1345 5923	gkeresztury@valeant.com	www.valeant.com	chloroquine

5.2 Mosquito nets

Company	Address	Telephone	Fax	E-mail	Website	Products
A to Z Textile Mills Ltd	Unga Ltd Ind. Area P.O. BOX 945, Arusha, United Republic of Tanzania	+255 27 254 8888	+255 27 254 8235	azpfl@habari.co.tz	N/A	Untreated nets, LLIN, pre-treated nets, Set packed nets
Akrungaroon Industry Co., Ltd	18/2 M00 7 Rattanatibet Rd. 11000 Bangkasore, Thailand	+66 2527 4135	+66 2527 4137	pairote@asiaaccess.net.th	www.sunmosquitonet.com	Untreated nets, pre-treated nets, Set packed nets
Commonwealth Trading Co., Ltd	48 Soi Aree 3 Phaholvothin Road 7, 10400 Bangkok Thailand	+66 2279 3218	+66 1271 4952	ctcenets@samart.co.th	N/A	Untreated nets, pre-treated nets, Set packed nets
Emnet Ltd	P.O. Box GD 520 Greendale, Harare, Zimbabwe	+263 448 7051	+263 448 0259	emnet@samara.co.zw	www.emnet.co.zw	Untreated nets
Siam Marry Textile Co., Ltd	59/3 Moo 3, Soi Watploenph-et Pudtramonthon No. 5 Rd., 73220 Sampran, Thailand	+66 28 118 580	+66 24 205 675	siammarry@yahoo.com	N/A	Untreated nets, pre-treated nets
Siamdutch Mosquito Netting Co., Ltd	15 Shumvit Soi 33 10110 Bangkok, Thailand	+66 22 58 56 21 (ext. 113)	+66 22 59 50 84	info@siamdutch.com	www.siamdutch.com	Untreated nets, pre-treated nets, Set packed nets
Sumitomo Chemical Co., Ltd	5-33, Kitahama, 4-chome, Chuo-ki, 541 8550 Osaka, Japan	+81 6 6220 3753	+81 6 6220 3507	kumagai@sc.sumitomo-chem.co.jp	www.sumitomo-chem.co.jp	LLIN
S.P.C.I. S.A.	4, rue de Laborde 75008 Paris, France	+33 1 40 08 04 17	033 1 40 08 04	dominique.monti@wannadoo.fr spci.logistics@worldonline.fr	N/A	Untreated nets, pre-treated nets, set packed nets
Sunflag Textiles & Knitwear Mills Ltd	P.O. Box 41627, 00100 GPO Nairobi, Kenya	+ 254 20 559 550	+254 20 559983	info@sunflagkenya.com	www.sunflagkenya.com	Untreated nets, Set packed nets
Sunflag Knitting Mills Ltd	9 Warehouse Road Iganmu Industrial Area, 321 Lagos Nigeria	+234 1 84 5039	N/A	mineshnigeria@hotmail.com	N/A	Untreated nets
Thai Bednets Manufacture Co., Ltd	60/67 moo5 Soi Nanthawan 6, Rama II RD., Bankhuntien 10150, Thailand	+66 28 98 74 77	+662 89 87 479	info@tahibednets.com	www.thaibednets.com	Untreated nets, pre-treated nets
Vestergaard Frandsen A/S	Haderslevvej 36 6000 Kolding, Denmark	+45 75 50 30 50	+45 75 50 30 44	sales@vestergaard-frandsen.com	www.vestergaard-frandsen.com	Untreated nets, LLIN, pre-treated nets

5.3 Diagnostic tests

Company	Address	Telephone	Fax	E-mail	Website	Products
Cellabs Pty Ltd	P.O. Box 421 Brookvale SW 2100, Australia	+61 2 9905 0133	+61 2 9905 6426	Hubert@cellabs.com.au	www.cellabs.com.au	Rapimal Malaria P.f. Rapid Test
Core Diagnostics	Aspect Court, 4 Temple Row Birmingham B2 5HG United Kingdom	+44 121 609 4720	+44 121 609 4721	sales@corediag.com	www.core-diagnostics.com	Core™ Malaria
Human GmbH	Max-Planck-Ring 21 D65205 Wiesbaden, Germany	+49 6122 9988 0	+49 6122 9988 100	human@human.de	www.human.de	Hexagon Malaria
ICT Diagnostics	271 De Goede Hoop Estate Village Lane Noordhoek Cape Town, South Africa	+27 21 789 2979	+27 21 789 2979	russellag@icon.co.za	N/A	P.f. Strips or Cassettes
Omega Diagnostics	Omega House Hillfoots Business Village Alva, FK12 5DQ, Scotland United Kingdom	+44 1259 763030	+44 1259 761853	andrews@omegadiagnostics.co.uk	www.omegadiagnostics.co.uk	Visitect ® Malaria Pf
Orchid Biomedical Systems	Plot Nos 88/89 Phase II C, Verna Industrial Estate Verna, Goa 403 722 India	+91 832 2783140	+91 832 2783139	orchid_goa@sancharnet.in	hwww.tulipgroup.com	Paracheck Pf
Plaza Diagnostics	11 Burke Street LIS Kwekwe, Zimbabwe	+263 55 23066	+263 55 23066	plazadiagnostics@plazagroup.org	N/A	Smart Check Malaria Pf
Span Diagnostics	173-B New Industrial Estate Udhuna, Surat, 394 210 India	+91 261 2277211	+91 261 2279319	spand@vsnl.com	www.spandiag.com	ParaHIT f
Binax	217 Read Street Portland, ME 04103, USA	+1 207 761 2074		sbusuttil@binax.com	www.binax.com	NOW® Malaria
Globalemed, LLC	1101 King St., Suite 370 Alexandria, Va 22314-2944 USA	+1 703 894 0710	+1 703 894 0725	technical@globalemed.com	www.globalemed.com	Smart Strip Malaria Combo Test
Standard Diagnostics, Inc	575-34 Pajang-dong, Jangan-ku, Suwon-si Kyonggi-do 440-853, Republic of Korea	+82 31 258 2994	+82 31 258 2995	sales@standardia.com	www.standardia.com	SD Bioline Malaria Antigen
Zephyr Biomedicals	Plot Nos. M 46-47, Phase III B, Verna Industrial Estate, Verna, Goa, 403 722, India	+91 832 2887023	+91 832 2887024	zephyr@sancharnet.in	www.tulipgroup.com	Parascreen

5.4 Insecticides

Company	Address	Telephone	Fax	E-mail	Website	Products
BASF South Africa (Pty) Ltd	P.O. Box 2801, Halfway House 1685, South Africa	+27 11 203 2600	+27 11 203 2461	peter.thompson@basf-s-africa.co.za	www.basf.com	Alpha-cypermethrin, temephos, Bacillus thurigiensis, Bacillus sphaericus
Bayer	21 Wrench Road, 1600 Isando, South Africa	+27 11 921 5911	+27 11 921 5766	andre.vanheerden@bayercropscience.com	www.bayercropscience.co.za	Deltamethrin, Cyfluthrin, Permethrin, Bendiocarb
Cheminova A/S	Thyboroenvej 78 7673 Harbooere, Denmark	+45 9690 9690	+45 9690 9691	info@cheminova.dk	www.cheminova.com	Malathion
Chimac-Agriphar S.A.	Rue de Renory 26 B-4102 Ougrée Belgium	+32 4 385 97 11	+32 4 385 97 49	info@agriphar.com	www.agriphar.com	Alpha-cypermethrin, Chlorpyriphos, Cypermethrin, Deltamethrin, Diflubenzuron, Fenitrothion, Malathion, Permethrin
Crompton Europe B. V.	860 Sokak Pasa Ha 103 Konak, 35250 Izmir, Turkey	+90 232 441 5436	+90 232 484 7012	uccizmir@ispro.net.tr	www.cromptomcorp.com	Diflubenzuron
Dow AgroSciences	Buropolis BP:229 1240 Route des Doline, 06904 Sophia Antipolis, France	+33 493 956 525	+33 493 956 526	dkelili@dow.com	www.dowagro.com	Chlorpyriphos, Spinosad
Hockley International Ltd	Hockley House, 354 Park Lane, Poynton Stockport SK1 2RL Cheshire, United Kingdom	+44 1625 878 590	+44 1625 877 285	mail@hockley.co.uk	www.hockley.co.uk	Deltamethrin, Alpha-cypermethrin, Lamda-cyhalothrin, Permethrin, Fenitrothion, Malathion, Pirimiphos-Methyl, Bifenthrin, Chlorpyrifos, Temephos, Diflubezuron, Bacillus Thurigiensis
Jiangsu Yangong Chemical Co. Ltd	39 Wenfeng Road Yangzhou 225009 China	+86 514 7820462	+86 514 7081005	trade@yangong.net	www.yangnong.net	Bifenthrin, Cyfluthrin, Deltamethrin, Lambda-cyhalothrin, Permethrin
Kemio	Via del Progresso 14, 00065 Fiano Romano (Roma), Italy	+39 0765 455 688	+39 765 455 688	kemioigieneambiente@tiscali.it	www.kemio.com	Chlorpyrifos, Malathion, Permethrin, Propoxur, Temephos
Ki-Hara Chemicals Ltd	Somerville House 20-22 Harborne Road, Edgbaston B15 3AA Birmingham, United Kingdom	+44 121 693 5900	+44 121 693 5900	mccoll@ki-hara.co.uk	www.ki-hara.co.uk	Alpha-cypermethrin, Bendiocarb, Bifenthrin, Cyfluthrin, DDT, Deltamethrin, Diflubenzuron, Etofenprox, Fenitrothion, Lambda-cyhalothrin, Malathion, Methoprene, Permethrin, Pirimiphos-methyl, Propoxur, Pyriproyfen, Resmethrin, Temephos,
Melspring International B.V.	Jansbuitensingel 20 6800 AC Arnhem, The Netherlands	+31 26 445 1251	+32 26 442 5093	weijman@melspring.com	www.melspring.com	Deltamethrin, Permethrin, Lambda-cyhalothrin, Alpha-cypermethrin, Cyfluthrin, Malathion, DDT, Temephos Bacillus Thurigiensis
PHP Santé, S.A.	36. Av. Cardinal-Mermillod, 1227 Carouge, Switzerland	+41 22 342 46 00	+41 22 342 81 16	php-sante@vtxnet.ch	www.phpsante.com	Deltamethrin, Lambda-cyhalothrin, malathion, DDT, Permethrin, Temephos

Company	Address	Telephone	Fax	E-mail	Website	Products
Shanghai Zhongxi Corp.	1515, JiaoTong Road, 200065 Shanghai, China	+86 21 687 65945	+86 21 687 65946	charlie-wen@zhongxi.com.cn, zxpharma@public.sta.net.cn	www.zhongxi.com.cn	Alpha-cypermethrin, Cyfluthrin, Deltamethrin, Etofenprox, Fenitrothion, Fenthion, Malathion, Permethrin, Pirimiphos-methyl
Sharda International	Domnic Holm, 29th Road, Bandra (West), 400050 Mumbai, India	+91 22 5678 2800	+91 22 5678 2808	shardain@vsnl.com	www.shardaintl.com	Alpha-cypermethrin, Bifenthrin, Cyfluthrin, Deltamethrin, Diflubenzuron, Etofenprox, Fenitrothion, Lambda-cyhalothrin, Malathion, Permethrin, Pirimiphos-methyl, Propoxur, Pyriproxyfen, Temephos
Sumitomo Chemical Co. Ltd	5-33 Kitahama 4-chome, Chuo-ku 5418550 Osaka Japan	+81 6 6220 3507	+81 6 6220 3507	itout12@sc.sumitomo-chem.co.jp	www.sumitomo-chem.co.jp	Fenitrothion, Pyriproxyfen
Syngenta Crop Protection AG	Schwarzwaldallee 215, 4058 Basel Switzerland	+41 61 323 111	+41 61 323 56 08	yehya.zaweel@syngenta.com	www.syngenta.com	Lamda-cyhalothrin, Pirimiphos-methyl
Tagros Chemical India Ltd	Jhaver Centre Rajah Annamalai Building, IV Floor No.72, Marshall's Road, 600 008 Egmore, Chennai, India	+91 44 28587841 / 74	+91 44 28587873	sales@tagros.com	www.tagros.com	Deltamethrin, Lambda-cyhalothrin, Permethrin, Alpha-cypermethrin
Tianjin Bene-Kind Tech Co. Ltd	P.O. Box No. 6 Huanghedao Postoffice, 300110 Tianjin, China	+86 22 2724 1332	+86 22 2768 7028	bene-kind@bene-kind.com	www.bene-kind.com	Alpha-cypermethrin, Bifenthrin, Cyfluthrin, Deltamethrin, DDT, Fenitrothion, Fenthion, Malathion, Propoxur

5.5 Insecticide spraying equipment

Company	Address	Telephone	Fax	E-mail	Website	Products
Gloria-Werke	Diestedder Str. 39 59329 Wadersloh, Germany	+49 25 23 77 192	+49 25 23 77 311	m.schwartze@gloria.de	www.gloria.de	Hand-operated compression sprayers
Goizper, S. Coop.	C/ Antigua 4, 20577 Antzuola (Gipuzkoa), Spain	+34 943 78 60 00	+34 943 76 60 08	goizper@goizper.com	www.goizper.com	Hand-operated compression sprayers and dusters
IGEBA Geraetebau GmbH	Heinrich-Nicolaus Str. 15, 87480 Weitnau-Seltmans Germany	+49 8375 92000	+49 8375 9200 22	info@igeba.de	www.igeba.de	Hand-operated compression sprayers, hand carried thermal foggers and aerosols
PT. Golgen Agin Nusa	Mitra Bahari Bolk D1-D2, Jalan Pakin No.1, Sunda Kelapa, 14440 Jakarta Utara, Indonesia	+62 21 6669 2030	+62 21 6669 2580	goldengs@cbn.net.id	www.golden-agin.com	Hand-operated compression sprayers
pulsFOG Dr. Stahl & Sohn GmbH	Abigstr. 8, 88662 Uberlingen, Germany	+49 7551 926 10	+49 7551 926 112	info@pulsfog.com	www.pulsfog.com	Hand carried thermal foggers, cold foggers and aerosols
Semco Co., Ltd	1-26-5 Kawanishi, Takatsi, 569 1133 Osaka, Japan	+81 72 681 1175	+81 72 681 1177	overseas@semco.net	www.semco.net	Hand-operated compression sprayers, dusters and backpack motorized mistblowers
Solo Kleinmotoren GmbH	Stuttgarter Strasse 41, 71069 Sindelfingen, Germany	+49 7031 301 132	+49 7031 301 149	info@solo-germany.com	www.solo-germany.com	Hand-operated compression sprayers and backpack motorized mistblowers
Tifa Ltd	50 Division Avenue, Millington, NJ 07946, USA	+1 908 647 4570	+1 908 647 2517	go@tifausa.com	www.tifausa.com	Hand-operated compression sprayers, hand carried thermal foggers and aerosols

5.6 Resistence test kits

Institution	Contact person	Telephone	Fax	E-mail	Web page	Products
Universiti Sains Malaysia, Vector Control Research Unit, School of Biological Sciences, Penang, Malaysia	Dr. Zairi Jaal	+604 657 4776	+604 657 7200	zairi@usm.my	www.usm.my	Insecticide and drug resistance kits

ANNEX I

Antimalarial medicines

A. Summary of WHO recommendations

Background

Global malaria control is being threatened on an unprecedented scale by a rapidly growing resistance of Plasmodium falciparum to current monotherapies such as chloroquine, sulfadoxine-pyrimethamine (SP) and amodiaquine. Multidrug resistant falciparum malaria is widely prevalent in South-East Asia and South America. Now Africa, the continent with the highest burden of malaria is also being seriously affected by drug resistance.

WHO recommendations

As a response to the antimalarial drug resistance situation, WHO recommends that treatment policies for falciparum malaria in all countries experiencing resistance to monotherapies should be combination therapies, preferably those containing an artemisinin derivative (ACT – artemisinin-based combination therapy).

The therapeutic options currently recommended by WHO are listed below:

1. artemether/lumenfantrine
2. artesunate plus amodiaquine
3. artesunate plus SP (in areas where SP efficacy remains high)
4. amodiaquine plus SP, in areas where efficacy of both amodiaquine and SP remains high (mainly limited to West Africa).
5. artesunate plus mefloquine, an additional recommended combination treatment which is reserved for areas of low transmission.

The current WHO policy on antimalarial treatment is based on the recommendations and conclusions of two consultations of international experts on malaria chemotherapy, held in November 2000 and April 2001.

Over the last three years 20 countries (7 in Africa) have updated their treatment policies to include ACTs as either first- or second-line treatment of malaria. This was based on WHO advice, and was made possible with the participation of RBM partners and increased mobilization of international funding.

In 2002 the Global Fund to fight AIDS, Tuberculosis and Malaria was established, and it has become one of the main international funding mechanisms to support the implementation of highly effective interventions for the control of these three diseases in endemic developing countries. The Global Fund is now the largest financial supporter of ACTs in countries. It has committed a total of US$ 30 million over the 5-year life of the Global Fund Board-approved proposals from African countries for the purchase of ACTs in three proposal rounds. Moreover, as a result of flexibility in the use of funds committed to these programs, even more funds may be allocated to purchase ACTs as countries continuously evaluate their drug policies and how to best utilize grants from the Global Fund. Indeed a number of recipient countries in Africa, which originally requested funding for chloroquine, are already in the process of re-evaluating their drug policies towards the use of ACTs, examples being Senegal, Ghana, Benin, Mali, Chad, and Gambia. In addition to the Global Fund, national Governments and RBM partners, such as UN Organizations, Bilateral Agencies and NGOs (MSF in particular) have contributed to the sourcing and financing of ACTs in Africa.

The single non artemisinin-based combination therapy (amodiaquine plus SP) listed among WHO recommended options is reserved for countries which are unable to move into ACTs. However, the following limitations of this option should be noted:

1. The number of countries, where efficacy of both amodiaquine and SP is high, is limited and restricted mainly to West Africa.
2. As both amodiaquine and SP are currently used widely as monotherapies it is unlikely that the adoption of this combination therapy will significantly delay the spread of resistance to either drug. Therefore, the adoption of CT with amodiaquine plus SP is likely to be a short-term solution.
3. Even in areas where the efficacy of both amodiaquine and SP remain high, their combined use will compromise the useful therapeutic life of both, and

thus endanger their potential use as partner drugs for artesunate in ACTs.

4. There is currently no replacement for SP as a drug for Intermittent Preventive Treatment (IPT) in pregnancy. Rather than compromise its therapeutic life by using it as a component of a CT, SP should be reserved for IPT.

5. As the process of drug policy change and implementation is resource – and time-intensive (experience shows it to take from one to three years), all efforts for improving access to treatment should be directed towards implementing the most effective and durable treatment policy.

One of the principal reasons for countries wishing to adopt non artemisinin-based combinations (CTs) is their lower price. However, multiple financial mechanisms are now available in countries, and international support is being mobilized to help countries adopt ACTs, and an increasing number of countries are now replacing ineffective monotherapies with ACTs rather than CTs.

To facilitate access to ACTs, WHO has, in collaboration with UNICEF, established a system for pre-qualification of manufacturers of artemisinin derivatives, negotiated price agreements with manufacturers, engaged in international procurement, and set up systems of pharmacovigilance in early use countries. A service for malaria medicines and supplies is now being established by WHO and RBM partners to facilitate access to ACTs. This will be a component of a larger facility for improving access to medicines and supplies for HIV/AIDS, TB and Malaria.

Conclusions

Consistent with WHO recommendations, malaria endemic countries which are experiencing resistance to currently used monotherapy antimalarial medicines (chloroquine, SP or amodiaquine) should change treatment policies to the more effective ACTs.

B. Special arrangements between WHO/UNICEF-Novartis Pharma AG[23]

How to place an order for Coartem® through WHO or UNICEF

What to bear in mind prior to placing an order:

1. National approvals

The product must either be registered for use in the country by the appropriate regulatory authority or have a legally acceptable exemption allowing its use in specific circumstances pending regulatory review of the product.

The use of the product should be consistent with changes, or foreseen changes, in pertinent treatment guidelines and/or drug formularies that guide the use of antimalarial medicines in the country.

Nongovernmental and bilateral or multilateral agency purchasers must obtain written approval from the Ministry of Health (MoH) of the disease endemic developing country ascertaining that the MoH is in agreement with the planned purchase and use of the drug.

2. WHO procurement procedures (and applicable fees)

WHO shall procure the drug on behalf of disease endemic developing countries, recognized nongovernmental organizations and bilateral and multilateral agencies, working by permission of, or in association with, such countries, using the following "reimbursable" procurement system:

— Before WHO makes commitment on behalf of a requesting authority or organization, funds equal to the total cost as estimated by WHO shall be deposited in US dollars or Swiss francs or other freely convertible currencies, to the credit of WHO either by cheque or bank transfer payable unconditionally to WHO at sight.

— If the amount reimbursed to WHO is in a currency other than US dollar the requesting authority will be liable to reimburse WHO for the amount of any foreign exchange loss due to exchange rate movements occurring between the date of payment by WHO and the date of re-imbursement to WHO.

— A charge of three per cent shall be levied by WHO from the public sector agency involved and shall be applied on the net cost of items of purchase. Under certain specific circumstances, i.e. in case of epidemics/emergency situations, this charge may be waived. Charges to other UN organizations are determined by independent agreements made by WHO with these organizations.

— Partial shipment may be made, and upon completion of the transaction, WHO shall send to the purchaser a statement of account with the supporting documents. The requesting authority may ask for a statement of account at the end of the transaction and require that any uncommitted balances of the advance made, be refunded to it.

[23] This special pricing agreement to procure artemether/lumefantrine (Coartem®) has been extended to UNICEF in 2004.

— Any discount or other saving shall be passed on to the requesting authority concerned.

— Once the request for supplies has been approved, the requesting authority shall be responsible for ensuring that import permits (if required) are granted.

— The forwarding agent indicated in the purchase order shall dispatch the supplies to the WHO Offices in countries or to other UN agencies as the case may be.

— Further information can be obtained from WHO Supply (PRS), Avenue Appia 20, 1211 Geneva 27, Switzerland, telephone +41 22 791 2187 or 791 1254, or fax +41 22 791 4196.

— For procurement through UNICEF Supply Division, further information can be obtained by contacting the Pharmaceuticals & Micronutrients Team, UNICEF Supply Division, UNICEF plads, Freeport, 2100 Copenhagen, Denmark, telephone +45 3527 3527 or fax: +45 3526 9421

3. Package presentations and cost

Coartem® packs especially designed for use in the public sector are available as of the second quarter of 2002.

"Public Sector" Presentations	Price per box in US$
Box containing 30 full treatment packs for patients of 10-14 kg (6 tablets per treatment) = 600 tablets	27
Box containing 30 full treatment packs for patients of 15-24 kg (12 tablets per treatment) = 1200 tablets	42
Box containing 30 full treatment packs for patients of 25-34 kg (18 tablets per treatment) = 1800 tablets	57
Box containing 30 full treatment packs for patients of >35 kg (24 tablets per treatment) = 2400 tablets	72

4. Minimum order size per destination

The minimum size per order and per destination is 108 boxes of 30 treatment packs, corresponding to 3,240 individual treatment courses. This minimum lot size applies to each of the four «public sector» presentations described above, under paragraph 3. This implies that purchase orders should be made by multiples of 3,240 individual treatment courses for each of the individual weight-specific treatment packs.

On a case-by-case basis, WHO can provide assistance in the purchase of smaller amounts needed for implementation of clinical trials.

5. Shelf life and lead time

The company has placed considerable effort in ensuring that the product has a maximal shelf life. Notwithstanding these efforts, artemether-lumefantrine has a relatively limited shelf life of 24 months which dictates that the supply chain must be as efficient as possible to avoid stock outs, waste or improper use.

The company requires a minimum period of four months from the time it receives an order from WHO or UNICEF to when it ships product. In addition to this time, requesting parties should add a minimum of one month from the initial receipt of the funds by WHO or UNICEF to the placement of the order with the company.

Hence, for routine use, a request for purchase of the drug should be made at least 6 months prior to the time that the product is required at the port of entry within the country. To determine the proper time for purchase, the requesting agencies must also add the time needed for distribution within the country to the territories/areas where the drug is intended to be used.

For emergency use, it is recognized that these lead times are too long. Expedited procedures for review of requests have therefore been put into place. In addition, WHO and UNICEF are trying to raise the funds necessary to establish an emergency stock of the drug intended for situations where rapid availability of product is crucial.

6. Conditions for access to the 'public sector' price and continued use of WHO/UNICEF procurement services

All disease endemic developing countries, nongovernmental organizations or other agencies potentially interested in obtaining artemether-lumefantrine through WHO/UNICEF should express this interest to WHO/UNICEF (even prior to the time that an actual purchase is planned) and agree to collaborate in providing regular and frequent forecasts of potential purchases.

In addition, according to the terms of the Agreement between the company and WHO/UNICEF, governments procuring the drug shall :

— Justify the use of the drug based on a report of the relevant malaria situation, control activities, and treatment guidelines;

— As appropriate, revise malaria treatment guidelines to include artemether-lumefantrine and other antimalarial drugs according to WHO-recommended drug regimens;

— Support the introduction of artemether-lumefantrine as first- or second- line antimalarial treatment with

appropriate training of health professionals and consumer education;

— Provide assurances that the supplies will not be diverted from their agreed use;

— Take all possible steps to prevent parallel exportation of the product;

— Not unduly increase the price to the end-user due to tariffs, duties and taxes;

— Apply due diligence in onward distribution of supplies to the treatment points and in strengthening weak links in the national drug management and distribution systems; and

— Provide reports on the supply situation prior to new requests of the drug.

What to submit, to whom, and how

A Request to Purchase form that is to be submitted with each request is available on the Web http://www.rbm.who.int or http://www.unicef.org/supply, or can be obtained from either WHO Roll Back Malaria Department (WHO/RBM), telephone: +41 22 791 3720, fax: +41 22 791 4824 or UNICEF Supply Division, telephone: +45 3527 35 27, fax: +45 3526 9421.

This form should be filled completely and completion to include all appropriate signatures. Incomplete forms will returned for further information/completion and may result in undesirable delays. Should assistance or more information be required regarding the form, please contact: WHO/RBM, telephone +41 22 791 3720, fax +41 22 791 4824 or UNICEF Supply Division, telephone: +45 3527 35 27, fax: +45 3526 9421.

As official signatures are required, this form should be mailed as a hardcopy to corresponding the procuring agency, either WHO Roll Back Malaria Department, Avenue Appia 20, 1211 Geneva 27, Switzerland. To expedite review for routine procurements and in all emergency situations this form should also be faxed to WHO/RBM at the number: +41 22 791 4824; or UNICEF Supply Division, UNICEF plads, Freeport, 2100 Copenhagen, Denmark. To expedite review for routince procurements and in all emergency situations this form can also be faxed to UNICEF Supply Divisoin at the number: +45 3526 9421.

The completed form will be reviewed by the WHO appointed group of experts who will issue a recommendation to WHO/UNICEF within 7 working days for routine use and within 24 hours for emergency use. WHO will make a final decision regarding the request, and following administrative procedures, forward it for action to WHO or UNICEF Procurement Services who will place the order with the company.

Those parties who wish to know the status of their request or orders at any time after submission can contact WHO/RBM, telephone +41 22 791 3720, fax +41 22 791 4824 or UNICEF Supply Division, telephone: +45 3527 35 27, fax: +45 3526 9421.

For more information see: http://mosquito.who.int/cmc_upload/0/000/015/789/CoA_website5.pdf

C. Pre-packaging specifications

The goal of an antimalarial treatment policy is to efficiently use available antimalarial medicines to maximize the reduction in mortality and morbidity due to malaria. The guiding principle of a rational antimalarial treatment policy is to provide safe, effective, good quality and affordable antimalarial medicines at the same time as promoting rational drug use to minimize development of antimalarial drug resistance.

As part of a global strategy to address the rapid development of resistance in malaria and enhance efficacy, WHO recommends that antimalarial medicines should always be used in combination, preferably with an artemisinin partner (artemisinin-based combination therapy – ACT)[24]. There are several challenges to be met in using these combination treatments. Currently, other than one fixed-dose artemisinin-based combination, the rest of the available combination treatments have to be taken as co-administered separate tablets. Another challenge to disease management is ensuring that patients adhere to the therapeutic dose combinations and to the full treatment schedules so that their use is optimal.

The concept of prepackaging treatment courses stratified by age or weight groupings has been a major contribution to enhancing rational drug use[25]. Prepackaging is defined as "blister packing of a course of treatment into a sealed primary packing of aluminium/PVC with individual doses in easily recognizable subunits". This is of particular importance to malaria as significant proportions of disease treatment takes place without contact with a health worker. Even in the case of single medicines (monotherapies) which are still being used in some situations, evidence has shown that unit-dose packaging stratified by age or weight

[24] Antimalarial Drug Combination Therapy. Report of a WHO Technical Consultation, 4-5 April 2001. Geneva, WHO, 2001 (WHO document reference WHO/CDS/RBM/2001.35).

[25] Yeboah-Antwi. Impact of pre-packaging anti-malarial drugs on cost to patients and compliance with treatment. *Bulletin of the World Health Organization*, 2001, 79(5), 381-488.

[26] Ansah E K, Gyapong J O, Agyepong I A, and Evans D B. Improving adherence to malaria treatment for children: the use of pre-packed chloroquine tablets vs. chloroquine syrup. *Tropical Medicine and International Health*, 2001, 6(7), 496-504.

groups significantly improves adherence to treatment[26]. As more countries start adopting ACTs, these challenges call for greater attention to be paid to pre-packaging of antimalarial medicines.

Antimalarial combination medicines are relatively new products with which manufacturers, regulatory authorities and health care professionals have limited experience. It is also expected that as demand for ACTs increases, there will be a corresponding increase in multiple and generic sources of these medicines. An overview of existing antimalarial medicines shows an array of products with varying standards of packaging and consumer information provided in the inserts.

Below are the excepts from a report of WHO technical consultation on the recommended norms and standards for prepackaging antimalarial medicines held in Geneva, September 2003.

Packaging material

The two main components of packaging are lidding material and the forming film. The lidding material is made of a barrier layer (e.g. aluminium foil) and usually has a print primer on one side and a sealing agent on the other side that gets in contact with the dosage form. Whereas the forming film may be single film, coated or laminate. There are at present no standard procedures and machines to detect minimum quality of the aluminium foil and there are large variations on the foil quality. However, aluminium strip packaging remains the commonest one used but may not be suitable for all the products.

The quality of the packaged product is significantly improved when it is done with Polyvinyl Chloride (PVC) or Polyvinylidene Chloride (PVDC). It is also important to ensure that the forming film is leak proof and hence leak integrity must be tested and ensured. The following should also be taken in consideration in pre-packaging antimalarial medicines:

- Protection from light and moisture as appropriate for different products. Select packaging materials based on the nature of the product to be blistered, registration information and technical specification of supplier (i.e. select coloured PVC/PVDC foil in case of light and humidity sensitive antimalarial medicines).
- Compatibility of the packaging materials with the product to be packed.
- Ensure that there are no possible interactions of the material to be used and the dosage form.
- The design of the blister should be user friendly i.e. one treatment course per blister with easily identifiable dose subunit and it should function properly (performance) i.e. the product should be easily removal from the blister.

Minimal regulatory requirements

Pharmaceutical products must meet safety and quality standards consistently according to the required specifications. There must be a quality assurance system or program to ensure that all batches produced meet the required specifications. Licensing the manufacturing facility should be based on compliance with Good Manufacturing Practices (GMP) standards as part of quality assurance. The products should be well labelled as required by the regulatory authorities for proper identification and follow up.

Specifications for labelling, label inserts and information

Information on the product label and inserts has focused on satisfying the drug regulatory requirements and not on the consumer. There is need to keep the consumers in mind when designing the packs. It is therefore recommended to have two separate inserts– one for the prescribers and the other for the consumer. This is very important because a significant amount of antimalarial medicines are being sold over the counter (OTC). The following are the expected minimum contents for prepackaging any antimalarial medicines as course of treatment:

a) Blister pack, which is here called a Primary Pack
b) Mandatory regulatory information Package insert
c) Secondary pack, which is the pack that contains the blister packs
d) Consumer information insert and instruction/information prepared by qualified IEC personnel

All packaging should be labelled with the following minimum information:

Primary Pack (Blister Pack):

- Manufacturer's name of the product
- The generic name and strength of active ingredient
- Dosage instructions for the consumer
- The batch number, manufacturing and expiry dates (expiry date of combination pack should be that of component expiring earliest)
- Manufacturer identification

Mandatory regulatory information
Package insert

It is recommended to follow the guidelines clearly outlined in the WHO Blue Book (WHO publication WHO/DMP/RGS/98.5). These usually include the name of each active ingredient, indications of use of the product and name and address of the manufacturer.

Secondary pack

Labelling of secondary packs are also recommended to follow WHO guidelines (WHO publication WHO/DMP/RGS/98.5).

Consumer information insert

One of the main objectives of pre-packaging is to improve consumer compliance. To achieve this, local cultural issues and preferences need to be taken into account by 'identifying with the customer', so instructions should be developed from this perspective.

The consumer insert, which should be clear and simple, should not only inform but also educate through good communication. Good consumer inserts designed for interactive use inspire providers to explain well, and enhance understanding and adherence. This is to ensure that the consumers are able to use medicines in the pack correctly and are able to understand how medicines should be taken, the need for a full course, and implications for NOT taking a full course.

The following make up the recommended minimum information that should be part of the consumer information insert in factual and patient-friendly wording:

- Name of the medicine, dosage form, strength and pack size of the product.
- A clear indication for use of the medicine (e.g. "this is a drug for fever/malaria").
- A clear description of the disease (e.g. "malaria is caused by mosquitoes that carry germs/parasites but is a curable disease").
- It should advise on the need to treat early and complete the treatment course. (e.g. "the earlier you treat with right drug the better" and "the longer the parasite is in body, the higher the chance to kill" OR phrases like "The full treatment is needed to kill all the germs and parasites, if not, malaria will come back again").
- The need to use the right dose for the right age or weight and ensuring that adequate treatment is received (e.g. "If the child vomits, give tablet to replace one which is lost").
- Information on what to do if the situation becomes worse or does not improve (e.g. "If you become more sick during or after completion of treatment, see a trained health worker").
- Information on the adverse effects, contra-indications, precautions and any appropriate warnings should be given.

In situations where the blister pack is in an individual box, it is recommended that the following information be included on the box:

- Identification as a malaria drug for specific age/size group (e.g. use of color, symbols like a mosquito, logo, portrayal of fever country context).
- Instructions on how to take the medicine stating clearly that the prepack is for use for a single malaria attack and all the medicine should be finished for complete cure.
- Mandatory Regulatory information (drug, batch number, expiry date etc.)

If the blister pack does not have its own individual box, then the information above should be on the blister pack itself.

ANNEX II

Mosquito nets

A. Summary of WHO recommendations

Background

Mosquito nets are an efficient preventive tool in global malaria control. Insecticide-treated nets (ITNs), knitted polyester nets that must be treated with insecticide and retreated every 6 months, are effective preventing malaria, but have several drawbacks. They require re-impregnation with insecticide on a regular basis to maintain their efficacy. This constraint requires that net users be educated about the importance of re-impregnation, and campaigns organized to ensure that this occurs. Carrying out these campaigns on a large-scale is expensive and logistically demanding, and current re-impregnation rates are poor (field studies show figures generally lower than 5%), particularly when ITN users are asked to pay for re-impregnation.

However, the development of technologies within the textile and the chemical industries permitting the durable impregnation of fiber with insecticide has led to several possibilities for making Long-Lasting Insecticidal Nets (LLIN), which can retain efficacy throughout the normal lifespan of the netting material itself (5 years for polyethylene, and 2-3 years for polyester nets).

The purchase of factory pre-treated nets other than LLINs is not recommended except for emergencies. It has recently been found that insecticide concentrations in these nets are extremely variable, frequently far below the target concentration. Such variation can be accepted in the case of emergencies, when rapid and effective treatment of nets on site is almost impossible to achieve. Under normal circumstances, preference should be given to LLINs that have been recommended by WHO or to non-treated nets bundled with an insecticide treatment kit. It is recommended that both net and insecticide should comply with WHO specifications.

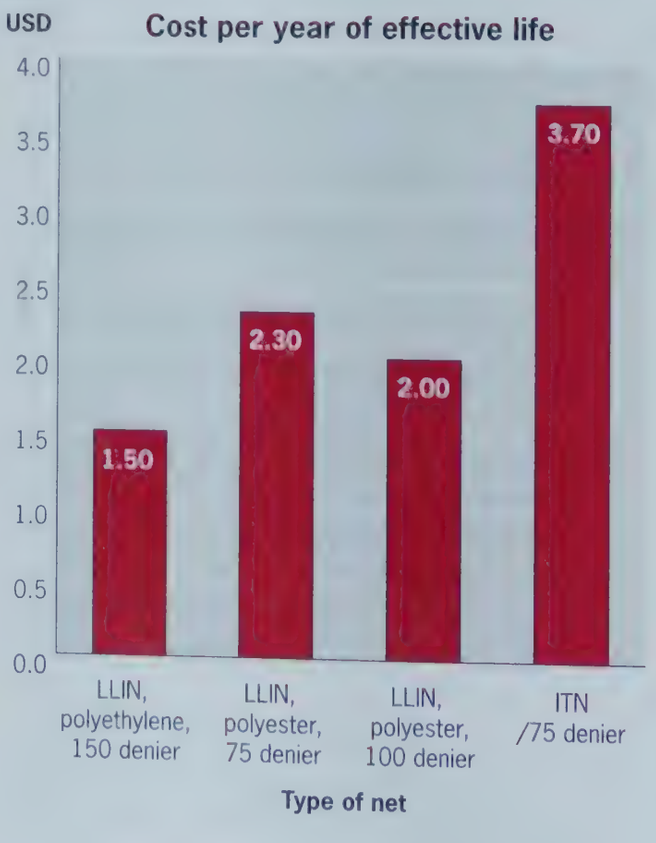
There are various materials used to produce netting materials. Cotton is not recommended because it is less durable and has a lower quality/price ratio than synthetic yarns. Polyester (multi-filament) has been the most widely used material, especially in Africa. This material is widely available and relatively cheap. Nylon is not recommended. High-density polyethylene (mono-filament) is used for a type of LLIN and is a common netting material in India. Nets made of this material have been found stronger and more durable than 75 or 100 denier polyester nets. Other materials such as polypropylene are under development which might combine advantages of both polyester and polyethylene, especially for LLINs.

WHO publishes and disseminates regular updates on LLINs to inform buyers and users about new developments and the status of WHO recommendations (on www.who.int/rbm technical strategies, vector control, insecticide treated materials).

Cost effectiveness of LLINs

The investment cost of LLINs is higher than conventional treated nets. However, if the cost of re-treatment of the conventional net is taken into account, in order to provide the same level of protection as the LLIN, the average cost per year of the LLIN is lower (Figure 1).

Figure 1. Cost effectiveness of LLINs



Source: UNICEF Supply Division

Moreover, the price of LLINs should fall as supply volumes increase and new suppliers come on stream the cost of ITNs is unlikely to decrease further.

B. Global demand and manufacturing capacity

Cumulative estimates for the number of nets distributed per year are 35 million and rising up to 42 million by 2006. This adds up to an estimated 152 million nets for the period 2004-2006. However these projections are highly dependent on donor input, e.g. Global Fund support for new country proposals, on the future growth of commercial distribution, (net sales have steadily grown in Tanzania at a 20% rate since 1994, and the case could be similar in other countries). These estimates also suggest that institutional purchases, mainly through UNICEF, WHO, PSI, Netmark and the Global Fund, will still comprise the bulk of the net procurement, approximately 70% of the total, over the next few years.

On the other hand the manufacturing capacity, estimated from responses to a survey conducted in 2003, is between 25 and 30 million nets. It is not expected to increase without a significant increase in funding. It should be noted that the production capacity of companies where quality standards do not conform to WHO recommended specifications for netting materials is not taken into account.

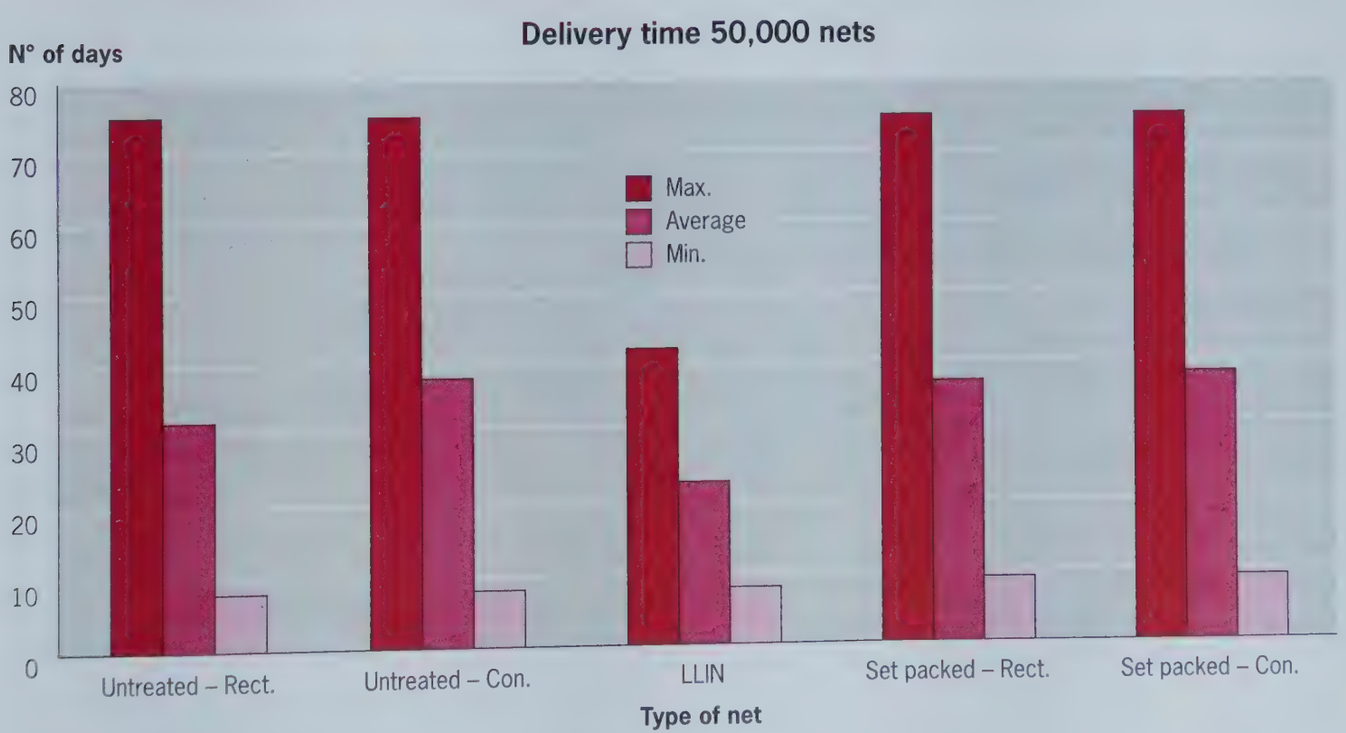
Nevertheless there is still a gap, both in projected funding and in production capacity, to meet the Abuja Target in 2005, which requires approximately 45 million nets per year in 2004 and 2005. New funding allocated to increase ITN coverage will, therefore, stimulate net manufacturers to increase their capacity, with a probable price reduction, in response to the growing demand.

C. Variation in delivery times

Delivery times are, together with price and quality, one of the key factors when purchasing mosquito nets for malaria control programmes. There is an ample variety among manufacturers due to different production capacities and booking of their capacity. Accurate and early forecasting of country or programme needs is crucial to promote timely and quick deliveries.

The manufacturers of mosquito nets that participated in this survey have been requested to provide their estimated normal delivery times for different types and quantities of nets. Delivery time is considered as the period between the receipt of an order by the manufacturer and the moment the goods are ready for shipment at the nearest port. Figure 2 shows the variation for different volumes of nets required and among the companies that participated in the survey.

Figures 2.
Variation in delivery times for mosquito nets



Source: UNICEF Supply Division

D. Taxes and tariffs of malaria related products

Taxes and tariffs affect both the retail prices of nets as well as the price competitiveness of domestic net production against imported nets. In many African countries, tariffs on mosquito nets have been lowered following the pledges made in Abuja, but tariffs on the raw materials needed to make nets, including polyester chips, yarn, netting material and insecticides, remain high. These added costs have to be passed on to the consumer of the final product. On the other hand, an imported net that is made in a country where no tariff is paid on the raw materials may not carry these added costs. Thus, an imported net will have a price advantage over a domestically made net which has had to factor in tariff costs on raw materials. This imbalance will discourage local net production. An additional difficulty facing net producers is the difficulty in getting up to date and reliable tariff information, which can vary considerably.

ANNEX III

Diagnostics

A. Summary of WHO recommendations

Misdiagnosis of malaria results in significant morbidity and mortality. Rapid, accurate and accessible detection of malaria parasites has an important role in promoting rational use of increasingly costly drugs in many endemic areas. While microscopic detection of parasites remains the standard and principal method of diagnosis in most situations, rapid diagnostic tests (RDTs) also offer the potential to provide accurate diagnosis to all at-risk populations for the first time, reaching those unable to access good-quality microscopy services.

Malaria RDTs, sometimes called dipsticks or malaria rapid diagnostic devices (MRDDs), are lateral flow immunochromatographic devices which detect specific antigens (proteins) produced by malaria parasites. These antigens are present in the blood of infected or recently infected people. The RDT signifies their presence by a colour change on an absorbing strip. Some RDTs can detect only one species (Plasmodium falciparum), usually by detecting either histidine-rich protein-2 (HRP2) or parasite-specific lactate dehydrogenase (pLDH). Some detect other species of malaria parasite which infect humans, by detecting other antigens.

Malaria RDTs come in 3 different formats. The simplest form is a dipstick, which is placed in a well containing blood and/or buffer. The strip may be enclosed in a plastic cassette or on a card. Cassettes and cards tend to be more expensive but are simpler to use.

The usefulness of RDTs will vary with epidemiology and available resources, including parasite prevalence, the availability of good microscopy-based diagnosis, and the cost of treatment and the test itself. They have applications in case management, screening, and epidemic investigation and monitoring.

At present WHO does not recommend any specific type of malaria RDT brand or product, but supports the use of RDTs in the management of malaria following the guidelines outlined in WHO publications. A list of major manufacturers and distributors known to WHO is available at http://www.wpro.who.int/rdt. This list is not based on quality considerations, but merely provides information on RDT currently known to WHO to be available on the market.

B. The use of malaria rapid diagnostic tests

Purchasing and choosing an appropriate RDT

Considerations for choosing an RDT product include:

- Plasmodium species to be detected (P. falciparum only, or panspecific);
- Shelf-life and temperature stability in intended conditions of storage and use;
- Ease of use, including format of the test (e.g. cassette, dipstick, card);
- Requirement for post-treatment testing of patients;
- Cost (including transport, training, and quality control); and
- Sensitivity.

Relative sensitivities of commercially available RDT products are difficult to assess from the published literature and are likely to be influenced by conditions of storage and use. Good quality-assurance processes after purchase are likely to be of greater importance.

Some malaria treatment programs require testing of patients after treatment to confirm treatment effectiveness. This requires an RDT which detects antigens which do not persist in the host circulation after death of the parasites. At present, pLDH-based RDTs may achieve this but results can be affected by high densities of gametocytes.

In humid tropical conditions, it is strongly recommended that RDTs be individually packaged in moisture-proof envelopes. Ease of use (e.g. number of preparation steps, blood transfer method, and need for accurate timing) will influence test accuracy, and influence the extent of training and supervision required.

Longer shelf lives reduce the pressure on the supply chain and the probability of wastage of expired tests; a minimum of 18 months (e.g. at least 15 after purchase) is recommended in remote, poorly resourced areas.

Retail prices of RDTs generally vary with location and the size of the order. RDTs detecting P. falciparum generally range upward from approximately US$ 0.65 per test. RDTs

detecting all species range upward from approximately US$ 1.00. Prices should be checked with individual manufacturers.

C. Tendering and the availability of product information

Together with considerations of the sensitivity, species of parasite detected, and cost of a product, it is useful to know the quality of manufacturing processes and the stability of a manufacturer. The long-term viability of a company and consistency of production will influence the ability to replace a product should the received lot fail, and to ensure long-term supply of a product to minimize the need for re-training.

It is therefore recommended that purchasers request the following information from manufacturers during the tendering process:

1. Real-time temperature stability data on the product, and accelerated data on the purchased lot
2. Evidence of successful operational use, or good quality field data on the product
3. Evidence of long-term viability of manufacturer (to ensure continuity of supply)
4. Evidence of Good Manufacturing Practice /ISO certification (ISO13485:2003 is specific for quality management systems for medical devices)
5. Availability of product support
6. Provision of sample products for assessment and testing for ease of use
7. Agreement for replacement of products which fail agreed quality control procedures (see above)
8. Box sizes appropriate to the rate of use of tests in the intended area, to minimize storage time in poor conditions and reduce the need to split boxes.

Points 3 and 4 imply that the place of manufacture of RDTs should be disclosed to the purchaser if RDTs are re-labelled.

Clarity of packaging of the end product is essential to allow identification of product type, production lots and expiry date.

D. Integrating malaria RDTs into health services

Prior to purchase of RDTs for large-scale use, it is recommended that procedures be prepared for:

— QC testing of a designated sample of the product;

— 'Cool chain' for transport and storage;

— Health worker training and monitoring;

— Clear plan of action to deal with positive and negative results (diagnostic and treatment algorithm).

Budgets for RDT procurement are recommended to include provision for the following:

1. Purchase and shipping;
2. Post-purchase QC testing;
3. Storage and in-country shipping;
4. Peripheral-level QC testing; and
5. End-user training and supervision.

E. Maintaining a 'cool chain'

Exposure to high temperatures is likely to be a major contributor to poor performance of malaria RDTs. Transport from the manufacturer, and road transport within a country, are particularly vulnerable times. Prolonged exposure to high humidity will also rapidly degrade RDTs and may occur after removal of the RDT from the envelope or if the envelope is damaged.

Most manufacturers recommend RDT storage between 2°C and 30°C. Expiry dates are generally set according to these conditions. If kits are stored at temperatures exceeding the recommended limits, it is likely that the shelf life of the RDTs will be reduced and sensitivity lost prior to the expiry date.

The development of a 'cool chain' for shipment and storage of RDTs is essential. Control of RDT distribution may best be served by using the same agency which organizes the distribution of drugs and vaccines. Transport and distribution temperatures should be monitored and distribution arranged to minimize time left on airport tarmacs, in transport vehicles, and other situations where high temperatures may be encountered. Storage conditions should be considered carefully and RDTs kept in controlled conditions (air-conditioning) where possible. Elsewhere, local conditions such as thatch versus iron roofs, and shaded buildings, should be considered.

Transport and storage at temperatures above 30°C is sometimes unavoidable, as in many remote locations where RDTs are intended for use. Monitoring the sensitivity of RDTs at appropriate intervals is therefore essential. WHO is developing recommendations for quality assurance to address these issues.

Source: *The Use of Malaria Rapid Diagnostic Tests.* Geneva, WHO, 2004.

ANNEX IV

Registration status of antimalarial medicines and insecticides included in the sources and prices survey

A. Antimalarial medicines

(Listed in alphabetical order of International Non-propietary Name (INN). Products marked in bold and with an asterisk (*) are on the list of pre-qualified products, see section 3.)

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
amodiaquine	tablet, 153 mg (base)	Aventis Intercontinental	France	yes	Benin, Burkina Faso, Cameroon, Congo, France, Gabon, Guinea, Côte d'Ivoire, Madagascar, Mali, Niger, Senegal, Sudan, Togo
amodiaquine	tablet, 153 mg (base)	Cipla Ltd	India	yes	No information provided
amodiaquine	tablet, 153 mg (base)	Ipca Laboratories Ltd	India	yes	No information provided
amodiaquine	tablet, 153 mg (base)	Lachifarma	Italy	yes	No information provided
amodiaquine	tablet, 153 mg (base)	Remedica Ltd	Cyprus	no	No information provided
amodiaquine	tablet, 200 mg (base)	Cipla Ltd	India	yes	Democratic Republic of the Congo
amodiaquine	tablet, 200 mg (base)	Glaxo Smithkline Ltd	Uk	yes	No information provided
amodiaquine	tablet, 200 mg (base)	Ipca Laboratories Ltd	India	yes	United Republic of Tanzania
amodiaquine	tablet, 200 mg (base)	Lachifarma	Italy	yes	No information provided
amodiaquine	tablet, 200 mg (base)	Strides Arcolab Ltd	India	yes	No information provided
artemether	injection 80 mg/ml in 1-ml ampoule	Aventis Intercontinental	France	no	Benin, Cameroon, Congo, Gabon, Guinea, Côte d'Ivoire, Madagascar, Mali, Mauritania, Nigeria, Senegal, Togo
artemether	injection 80 mg/ml in 1-ml ampoule	Intas Pharmaceuticals Ltd	India	yes	No information provided
artemether	injection 80 mg/ml in 1-ml ampoule	Strides Arcolab Ltd	India	yes	Sudan

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
artemether	tablet or capsule, 40 mg	Ipca Laboratories Ltd	India	yes	Ghana, Uganda
artemether + lumefantine	tablet, 20 mg + 120 mg	Novartis Pharma AG	Switzerland	yes	Argentina, Aruba, Australia, Bangladesh, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Chile, China, Colombia, Congo, Cyprus, Czech Republic, Dominican Republic, Ecuador, El Salvador, Estonia, French Guyana, Gabon, Ghana, Guatemala, Guinea, Haiti, Honduras, Hong Kong, Iceland, India, Côte d'Ivoire , Jamaica, Kenya, Latvia, Madagascar, Malawi, Mali, Malta, Mauritania, Myanmar, Mexico, Nicaragua, Niger, Nigeria, Pakistan, Panama, Peru, Philippines, Poland, Senegal, Singapore, South Africa, Switzerland, United Republic of Tanzania, Thailand, Togo, Trinidad and Tobago, Venezuela, Vietnam, Yemen, Zambia, Zanzibar, Zimbabwe In process: Botswana, Cambodia, Ethiopia, Indonesia, Iraq, Lao People's Democratic Republic, Malaysia, Mozambique, New Zealand, Romania, Sri Lanka, Sudan, Suriname, Turkey, Uganda
artesunate	tablet, 200 mg	Mepha Ltd	Switzerland	no	Benin, Brazil, Burkina Faso, Cameroon, Colombia, Congo, Ecuador, El Salvador, Gabon, Ghana, Guatemala, Côte d'Ivoire, Kenya, Mali, Niger, Nigeria, Senegal, United Republic of Tanzania, Thailand, Togo, Trinidad and Tobago
artesunate	tablet, 50 mg	Artesan Pharma	Germany	no	In process: Congo
artesunate	tablet, 50 mg	Cipla Ltd	India	yes	No information provided
artesunate	tablet, 50 mg	Ipca Laboratories Ltd	India	yes	No information provided
artesunate	tablet 50 mg	Mepha Ltd	Switzerland	no	Benin, Brazil, Burkina Faso, Cameroon, Colombia, Ecuador, El Salvador, Gabon, Ghana, Guatemala, Honduras, Côte d'Ivoire, Kenya, Mali, Niger, Nigeria, Senegal, Thailand, Togo, Trinidad and Tobago
***artesunate**	tablet, 50 mg	Sanofi-Synthelabo	France	yes	Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Gabon, Guinea, Côte d'Ivoire, Kenya, Madagascar, Mali, Mauritania, Niger, Nigeria, Senegal, United Republic of Tanzania, Togo, Uganda
artesunate + amodiaquine	tablet, 50 mg + 150 mg	Ipca Laboratories Ltd	India	yes	No information provided
artesunate + amodiaquine	tablet, 50 mg + 250 mg	Cipla Ltd	India	yes	In process: Burundi, Gabon, Benin
artesunate + amodiaquine	tablet, 200 mg + 250 mg	Mepha Ltd	Switzerland	no	No information provided
artesunate + mefloquine	tablet, 50 mg + 250 mg	Cipla Ltd	India	In process	No information provided
artesunate + mefloquine	tablet, 50 mg + 250 mg	Mepha Ltd	Switzerland	no	In process

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
artesunate + mefloquine	tablet, 200 mg + 250 mg	Mepha Ltd	Switzerland	no	In process
chloroquine	injection 40 mg (as hydrochloride, phosphate or sulphate)/ml in a 5-ml ampoule	Glaxosmithkline Ltd	United Kingdom	No information provided	No information provided
chloroquine	injection 40 mg (as hydrochloride, phosphate or sulphate)/ml in a 5-ml ampoule	Intas Pharmaceuticals Ltd	India	yes	Ghana, Kenya
chloroquine	injection 40 mg (as hydrochloride, phosphate or sulphate)/ml in a 5-ml ampoule	Laboratoire Renaudin	France	no	No information provided
chloroquine	injection 40 mg (as hydrochloride, phosphate or sulphate)/ml in a 5-ml ampoule	Pharmatex Italia Srl	Italy	yes	No information provided
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Beltapharm	Italy	no	No information provided
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Glaxosmithkline Ltd	United Kingdom	No information provided	No information provided
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Lachifarma	Italy	yes	No information provided
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Purna Pharmaceuticals	Belgium	no	Mali
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Rosemont Pharmaceuticals Ltd	United Kingdom	no	Sudan
chloroquine	syrup, 50 mg (as phosphate or sulphate)/5 ml	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
chloroquine	syrup, 74.4 mg (as phosphate or sulphate)/5 ml	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Aventis Intercontinental	France	no	Algeria, Benin, Burkina Faso, Central African Republic, Congo, France, Gabon, Guinea, Lebanon, Madagascar, Mali, Morocco, Saudi Arabia, Senegal, Togo, Tunisia, Nigeria

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Cipla Ltd	India	yes	Mauritania
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Glaxosmithkline Ltd	United Kingdom	No information provided	No information provided
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Ipca Laboratories Ltd	India	yes	Madagascar
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Lachifarma	Italy	yes	No information provided
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Pharmamed Ltd	Malta	yes	No information provided
chloroquine	tablet, 100 mg (as phosphate or sulphate)	Sanavita Aktiengesells-chaft & Co	Germany	no	Madagascar
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Alpharma	Indonesia	yes	No information provided
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Bayer Healthcare AG	Germany	yes	Austria, Bulgaria, Colombia, Cuba, El Salvador, Guatemala, Honduras, India, Indonesia, Italy, Nicaragua, Pakistan, Portugal, Saudi Arabia, Senegal, Spain, Yemen
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Cipla Ltd	India	yes	No information provided
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Ecobi Farmaceutici S.A.S	Italy	yes	No information provided
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Ipca Laboratories Ltd	India	yes	Madagascar, Netherlands
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Lachifarma	Italy	yes	No information provided
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Pharmamed Ltd	Malta	no	Zimbabwe
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Remedica Ltd	Cyprus	no	No information provided

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Sanavita Aktiengesells-chaft & Co	Germany	no	Madagascar
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Strides Arcolab Ltd	India	yes	Nigeria
chloroquine	tablet, 150 mg (as phosphate or sulphate)	Valeant	Hungary	yes	Russian Federation, Georgia, United Kingdom, Ukraine, Czech Republic, Slovakia
chloroquine	tablet, 250 mg	Glaxosmithkline Ltd	United Kingdom	No information provided	No information provided
chloroquine	tablet, 250 mg	Ipca Laboratories Ltd	India	yes	Ethiopia, Kenya, Malaysia, Myanmar, Nigeria, Oman, Sri Lanka, Sudan, Yemen, Zimbabwe
chloroquine	tablet, 500 mg	Ipca Laboratories Ltd	India	yes	No information provided
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Alpharma	Indonesia	yes	No information provided
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Cipla Ltd	India	yes	South Africa
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Hovid	Malaysia	yes	Cambodia, Ghana, Hong Kong, Myanmar, Nigeria, Philippines, Singapore, Viet Nam
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Intas Pharmaceuticals Ltd	India	yes	United Republic of Tanzania, Zimbabwe
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Lyka Labs Ltd	India	yes	No information provided
doxycycline	capsule or tablet, 100 mg (as hydrochloride)	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
mefloquine	tablet, 250 mg (as hydrochloride)	Artesan Pharma	Germany	no	No information provided
mefloquine	tablet, 250 mg (as hydrochloride)	Cipla Ltd	India	yes	South Africa, Yemen, Sudan, Thailand
mefloquine	tablet, 250 mg (as hydrochloride)	Intas Pharmaceuticals Ltd	India	yes	Armenia, Bolivia, Kenya, Malaysia, Myanmar, Peru, Singapore, Uganda, Zimbabwe

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
mefloquine	tablet, 250 mg (as hydrochloride)	Ipca Laboratories Ltd	India	yes	Myanmar, United Republic of Tanzania
mefloquine	tablet, 250 mg (as hydrochloride)	Lachifarma	Italy	yes	No information provided
mefloquine	tablet, 250 mg (as hydrochloride)	Mepha Ltd	Switzerland	yes	Bahrain, Benin, Brazil, Cambodia, China, Colombia, Congo, Costa Rica, Czech Republic, Ecuador, El Salvador, Gabon, Guyana, Honduras, Hong Kong, Israel, Côte d' Ivoire, Jordan, Kenya, Kuwait, Latvia, Macao, Madagascar, Malaysia, Malta, Myanmar, Oman, Panama, Peru, Qatar, Saudi Arabia, Senegal, Singapore, Switzerland, United Republic of Tanzania, Thailand, Togo, Trinidad and Tobago, Uganda, United Arab Emirates
primaquine	tablet, 15 mg (as diphosphate)	Artesan Pharma	Germany	no	No information provided
primaquine	tablet, 15 mg (as diphosphate)	Lachifarma	Italy	yes	No information provided
primaquine	tablet, 15 mg (as diphosphate)	Pharmamed Ltd	Malta	no	No information provided
primaquine	tablet, 15 mg (as diphosphate)	Remedica Ltd	Cyprus	yes	Costa Rica, Saudi Arabia
primaquine	tablet, 7.5 mg	Lachifarma	Italy	yes	No information provided
primaquine	tablet, 7.5 mg	Remedica Ltd	Cyprus	yes	Oman, Saudi Arabia
proguanil	tablet, 100 mg (as hydrochloride)	Lachifarma	Italy	yes	No information provided
proguanil	tablet, 100 mg (as hydrochloride)	Remedica Ltd	Cyprus	no	No information provided
pyrimethamine	tablet, 25 mg	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Biologici Italia Laboratories	Italy	yes	No information provided
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Intas Pharmaceuticals Ltd	India	yes	Kenya, United Republic of Tanzania, Uganda
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Laboratoire Renaudin	France	no	No information provided
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Monico Spa.	Italy	no	No information provided
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Pharmatex Italia Srl	Italy	yes	No information provided

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	Rotexmedica Gmbh	Germany	no	Cameroon, Kenya, United Republic of Tanzania, Uganda, Zimbabwe
quinine	injection, 300 mg/ml (as dihydrochloride) in a 2-ml ampoule	The Government Pharmaceutical Organization	Thailand	yes	No information provided
quinine	tablet, 200 mg	Pharmamed Ltd	Malta	yes	Cameroon, Central African Republic, Uganda
quinine	tablet, 300 mg (as bisulfate or sulfate)	Artesan Pharma	Germany	no	No information provided
quinine	tablet, 300 mg (as bisulfate or sulfate)	Intas Pharmaceuticals Ltd	India	yes	Kenya, Peru, United Republic of Tanzania, Uganda, Zambia
quinine	tablet, 300 mg (as bisulfate or sulfate)	Ipca Laboratories Ltd	India	yes	United Republic of Tanzania, Myanmar, Peru, Yemen, Zimbabwe
quinine	tablet, 300 mg (as bisulfate or sulfate)	Lachifarma	Italy	yes	No information provided
quinine	tablet, 300 mg (as bisulfate or sulfate)	Lyka Labs Ltd	India	yes	No information provided
quinine	tablet, 300 mg (as bisulfate or sulfate)	Pharmamed Ltd	Malta	yes	Benin, Burkina Faso, Cameroon, Mali, Uganda
quinine	tablet, 300 mg (as bisulfate or sulfate)	Rekah Pharmaceutical Industry Ltd	Israel	yes	In process: Uganda
quinine	tablet, 300 mg (as bisulfate or sulfate)	Remedica Ltd	Cyprus	yes	Bostwana, Guyana, Iran, Malawi, Malta, Saudi Arabia, United Republic of Tanzania, Zimbabwe
quinine	tablet, 300 mg (as bisulfate or sulfate)	Strides Arcolab Ltd	India	yes	Uganda
quinine	tablet, 300 mg (as bisulfate or sulfate)	The Government Pharmaceutical Organization	Thailand	yes	No information provided
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Alpharma	Indonesia	yes	No information provided
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Artesan Pharma	Germany		No information provided

International Non-proprietary Name (INN)	Dosage form and Strength	Manufacturer	Country	National Reg.	Registration in other countries
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Glaxosmithkline Ltd	United Kingdom	No information provided	No information provided
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Intas Pharmaceuticals Ltd	India	yes	Ghana, Kenya, United Republic of Tanzania, Uganda, Yemen
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Ipca Laboratories Ltd	India	yes	Kenya, Mali, Myanmar, Nigeria, Sudan, United Republic of Tanzania, Zaire, Zimbabwe
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Lyka Labs Ltd	India	yes	No information provided
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Pharmamed Ltd	Malta	yes	Malawi, Uganda, Zimbabwe
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Remedica Ltd	Cyprus	yes	Bostwana, Ethiopia, Gambia, Kenya, Malawi, Myanmar, Sudan, Suriname, United Republic of Tanzania, Uganda
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Shiba Pharmaceuticals & Chemicals Mfg.Co.Ltd	Yemen	yes	Eritrea, Ethiopia, Iraq, Sudan, United Republic of Tanzania, United Arab Emirates
sulfadoxine + pyrimethamine	tablet, 500 mg + 25 mg	Strides Arcolab Ltd	India	yes	Uganda

B. Insecticides

Insecticide	Manufacturer	Country	Registration in following countries
Insecticides for mosquito net impregnation			
Alphacypermethrin dose	BASF South Africa (Pty) Ltd	South Africa	Burkina Faso, Cameroon, Ethiopia, Kenya, Madagascar, Malawi, Mali, Senegal, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe, other CILSS countries. Also registered in other countries around the world.
Alphacypermethrin dose	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Cyfluthrin dose	Bayer	South Africa	No information provided
Deltamethrin dose	Bayer	South Africa	No information provided
Deltamethrin dose	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Lambda-cyhalothrin dose	Syngenta Crop Protection AG	Switzerland	Angola, Botswana, Burkina Faso, Democratic Republic of the Congo, Iraq, Côte d' Ivoire, Kenya, Malawi, Mali, Mozambique, Nigeria, Saudi Arabia, Thailand
Alphacypermethrin Kit	BASF South Africa (Pty) Ltd	South Africa	Burkina Faso, Cameroon, Ethiopia, Kenya, Madagascar, Malawi, Mali, Senegal, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe. Also registered in other countries around the world.
Alphacypermethrin Kit	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Cyfluthrin Kit	Bayer	South Africa	No information provided
Deltamethrin Kit	Bayer	South Africa	No information provided
Deltamethrin Kit	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia

Insecticide	Manufacturer	Country	Registration in following countries
Lambda-cyhalothrin Kit	Syngenta Crop Protection AG	Switzerland	Angola, Botswana, Burkina Faso, Democratic Republic of the Congo, Iraq, Côte d' Ivoire, Kenya, Malawi, Mali, Mozambique, Nigeria, Saudi Arabia, Thailand, Yemen, Zambia and Zimbabwe
Alpha-cypermethrin SC	BASF South Africa (Pty) Ltd	South Africa	Burkina Faso, Cameroon, Ethiopia, Kenya, Madagascar, Malawi, Mali, Senegal, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe. Also registered in other countries around the world.
Alpha-cypermethrin SC	Chimac-Agriphar, S.A.	Belgium	No information provided
Alpha-cypermethrin SC	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Alpha-cypermethrin SC	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Alpha-cypermethrin SC	Melspring International B.V.	The Netherlands	No information provided
Alpha-cypermethrin SC	Shanghai Zhongxi Corp.	China	No information provided
Alpha-cypermethrin SC	Sharda International	India	United Kingdom, Spain
Alpha-cypermethrin SC	Tagros Chemical India Ltd	India	India
Alpha-cypermethrin SC	Tianjin Bene-Kind Tech Co. Ltd	China	China
Cyfluthrin EW	Bayer	South Africa	No information provided
Cyfluthrin EW	Jiangsu Yangong Chemicals Co.	China	China
Cyfluthrin EW	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Cyfluthrin EW	Melspring International B.V.	The Netherlands	No information provided
Cyfluthrin EW	Shanghai Zhongxi Corp.	China	No information provided
Cyfluthrin EW	Sharda International	India	None
Cyfluthrin EW	Tianjin Bene-Kind Tech Co. Ltd	China	China
Deltamethrin SC	Bayer	South Africa	No information provided
Deltamethrin SC	Chimac-Agriphar, S.A.	Belgium	No information provided

Insecticide	Manufacturer	Country	Registration in following countries
Deltamethrin SC	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Deltamethrin SC	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Deltamethrin SC	Melspring International B.V.	The Netherlands	No information provided
Deltamethrin SC	PHP Santé, S.A.	Switzerland	China
Deltamethrin SC	Shanghai Zhongxi Corp.	China	No information provided
Deltamethrin SC	Sharda International	India	None
Deltamethrin SC	Tagros Chemical India Ltd	India	India
Deltamethrin SC	Tianjin Bene-Kind Tech Co. Ltd	China	China
Etofenprox EW	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Etofenprox EW	Sharda International	India	None
Lambda-cyhalothrin CS	Syngenta Crop Protection AG	Switzerland	Angola, Botswana, Brazil, Bulgaria, Burkina Faso, Cameroon, Democratic Republic of the Congo, Cyprus, Greece, Indonesia, Kenya, Democratic People's Republic of Korea, Malawi, Mali, Mexico, Mozambique, Nigeria, Sudan, United Republic of Tanzania, Thailand, Viet Nam, Yemen, Zambia, Zimbabwe
Permethrin EC	Bayer	South Africa	No information provided
Permethrin EC	Chimac-Agriphar, S.A.	Belgium	No information provided
Permethrin EC	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia

Insecticide	Manufacturer	Country	Registration in following countries
Insecticide for outdoor spraying			
Fenitrothion (250 – 300 g/ha active ingredient)	Chimac-Agriphar, S.A.	Belgium	No information provided
Fenitrothion (250 – 300 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Fenitrothion (250 – 300 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Fenitrothion (250 – 300 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Fenitrothion (250 – 300 g/ha active ingredient)	Sharda International	India	Saudi Arabia
Fenitrothion (250 – 300 g/ha active ingredient)	Sumitomo Chemical Co. Ltd	Japan	Malaysia, Myanmar, Nicaragua, Saudi Arabia
Fenitrothion (250 – 300 g/ha active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Malathion (112 – 600 g/ha active ingredient)	Cheminova A/S	Denmark	Bangladesh, Belize, Bolivia, Brazil, Cuba, Ethiopia, Ghana, Guatemala, Indonesia, Kenya, Iraq, Malaysia, Myanmar, Oman, Pakistan, Somalia, Sudan, United Republic of Tanzania
Malathion (112 – 600 g/ha active ingredient)	Chimac-Agriphar, S.A.	Belgium	No information provided
Malathion (112 – 600 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Malathion (112 – 600 g/ha active ingredient)	Kemio	Italy	No information provided
Malathion (112 – 600 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Malathion (112 – 600 g/ha active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Malathion (112 – 600 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Malathion (112 – 600 g/ha active ingredient)	Sharda International	India	None
Malathion (112 – 600 g/ha active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China

Insecticide	Manufacturer	Country	Registration in following countries
Pirimiphos-methyl (250 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Pirimiphos-methyl (250 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Pirimiphos-methyl (250 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Pirimiphos-methyl (250 g/ha active ingredient)	Sharda International	India	None
Pirimiphos-methyl (250 g/ha active ingredient)	Syngenta Crop Protection AG	Switzerland	Algeria, Argentina, Australia, Bangladesh, Bolivia, Brazil, Bulgaria, Colombia, Cuba, Great Britain, Greece, Iran, Iraq, Italy, Côte d' Ivoire, Kenya, Kuwait, Malaysia, Malawi, Mali, Mexico, Morocco, Mozambique, Nigeria, Oman, Pakistan, Panama, Philippines, Saudi Arabia, South Africa, Spain, Sudan, Uganda, United Kingdom, United Arab Emirates, United States, Venezuela, Yemen, Zimbabwe
Cyfluthrin (1 – 6 g/ha active ingredient)	Jiangsu Yangong Chemicals Co.	China	China
Cyfluthrin (1 – 6 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Cyfluthrin (1 – 6 g/ha active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Cyfluthrin (1 – 6 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Cyfluthrin (1 – 6 g/ha active ingredient)	Sharda International	India	None
Cyfluthrin (1 – 6 g/ha active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Jiangsu Yangong Chemicals Co.	China	China
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Sharda International	India	Saudi Arabia, Taiwan, Australia
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Tagros Chemical India Ltd	India	India, Nepal. In process: Peru, Sudan
Deltamethrin (0.5 – 1.0 g/ha active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China

Insecticide	Manufacturer	Country	Registration in following countries
Insecticide for indoor residual spraying			
Bendicarb WP (0.2 – 0.4 g/m² active ingredient)	Bayer	South Africa	No information provided
Bendicarb WP (0.2 – 0.4 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Propoxur WP (1 – 2 g/m² active ingredient)	Kemio	Italy	No information provided
Propoxur WP (1 – 2 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Propoxur WP (1 – 2 g/m² active ingredient)	Sharda International	India	None
Propoxur WP (1 – 2 g/m² active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Fenitrothion WP (2 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Fenitrothion WP (2 g/m² active ingredient)	Sumitomo Chemical Co. Ltd	Japan	Argentina, Honduras, Malaysia, Myanmar, Nicaragua, Peru, Saudi Arabia
Malathion WP (2 g/m² active ingredient)	Cheminova A/S	Denmark	All countries with malaria control according to WHO specifications
Malathion WP (2 g/m² active ingredient)	Kemio	Italy	No information provided
Malathion WP (2 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Malathion WP (2 g/m² active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Malathion WP (2 g/m² active ingredient)	PHP Santé, S.A.	Switzerland	China
Malathion WP (2 g/m² active ingredient)	Sharda International	India	None
Pirimiphos-methyl WP and EC (1 – 2 g/m² active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Pirimiphos-methyl WP and EC (1 – 2 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Pirimiphos-methyl WP and EC (1 – 2 g/m² active ingredient)	Sharda International	India	None
Pirimiphos-methyl WP and EC (1 – 2 g/m² active ingredient)	Syngenta Crop Protection AG	Switzerland	Algeria, Argentina, Australia, Bangladesh, Bolivia, Brazil, Bulgaria, Colombia, Cuba, Great Britain, Greece, Iran, Iraq, Italy, Côte d' Ivoire, Kenya, Kuwait, Malaysia, Malawi, Mali, Mexico, Morocco, Mozambique, Nigeria, Oman, Pakistan, Panama, Philippines, Saudi Arabia, South Africa, Spain, Sudan, Uganda, United Kingdom, United Arab Emirates, United States, Venezuela, Yemen, Zimbabwe

Insecticide	Manufacturer	Country	Registration in following countries
DDT WP (1 – 2 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
DDT WP (1 – 2 g/m² active ingredient)	Melspring International B.V.	The Netherlands	No information provided
DDT WP (1 – 2 g/m² active ingredient)	PHP Santé, S.A.	Switzerland	China
DDT WP (1 – 2 g/m² active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)	BASF South Africa (Pty) Ltd	South Africa	Burkina Faso, Cameroon, Ethiopia, Kenya, Madagascar, Malawi, Mali, Senegal, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe. Also registered in other countries around the world.
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)	Sharda International	India	None
Alpha-cypermethrin WP and SC (0.02 – 0.03 g/m² active ingredient)	Tagros Chemical India Ltd	India	India, Sudan
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)	Jiangsu Yangong Chemicals Co.	China	China
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)	Sharda International	India	None
Bifenthrin WP (0.025 – 0.050 g/m² active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)	Bayer	South Africa	No information provided

Insecticide	Manufacturer	Country	Registration in following countries
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)	Jiangsu Yangong Chemicals Co.	China	China
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)	Sharda International	India	None
Cyfluthrin WP (0.02 – 0.05 g/m² active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Bayer	South Africa	No information provided
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Jiangsu Yangong Chemicals Co.	China	China
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Deltamethrin WP, WG (0.020 – 0.025 g/m² active ingredient)	Sharda International	India	None
Insecticide for larviciding			
Fuel Oil solution (142 – 190 l/ha active ingredient)	No information provided for this product		
Fuel Oil + spreading agent solution (19 – 47 l/ha active ingredient)	No information provided for this product		
Chlopyriphos EC (11 – 25 g/ha active ingredient)	Chimac-Agriphar, S.A.	Belgium	No information provided

Insecticide	Manufacturer	Country	Registration in following countries
Chlopyriphos EC (11 – 25 g/ha active ingredient)	Dow Agro Sciences	France	No information provided
Chlopyriphos EC (11 – 25 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Chlopyriphos EC (11 – 25 g/ha active ingredient)	Kemio	Italy	No information provided
Fenthion EC (22 – 112 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Fenthion EC (22 – 112 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Fenthion EC (22 – 112 g/ha active ingredient)	Sharda International	India	None
Fenthion EC (22 – 112 g/ha active ingredient)	Tianjin Bene-Kind Tech Co. Ltd	China	China
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)	Shanghai Zhongxi Corp.	China	No information provided
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)	Sharda International	India	Saudi Arabia
Pirimiphos-methyl EC (50 – 500 g/ha active ingredient)	Syngenta Crop Protection AG	Switzerland	Algeria, Argentina, Australia, Bangladesh, Bolivia, Brazil, Bulgaria, Colombia, Cuba, Great Britain, Greece, Iran, Iraq, Italy, Côte d' Ivoire, Kenya, Kuwait, Malaysia, Malawi, Mali, Mexico, Morocco, Mozambique, Nigeria, Oman, Pakistan, Panama, Philippines, Saudi Arabia, South Africa, Spain, Sudan, Uganda, United Kingdom, United Arab Emirates, United States, Venezuela, Yemen, Zimbabwe
Temephos EC, GR (56 – 112 g/ha active ingredient)	BASF South Africa (Pty) Ltd	South Africa	Burkina Faso, Cameroon, Ethiopia, Kenya, Madagascar, Malawi, Mali, Senegal, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe. Also registered in other countries around the world.

Insecticide	Manufacturer	Country	Registration in following countries
Temephos EC, GR (56 – 112 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Temephos EC, GR (56 – 112 g/ha active ingredient)	Kemio	Italy	No information provided
Temephos EC, GR (56 – 112 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Temephos EC, GR (56 – 112 g/ha active ingredient)	Melspring International B.V.	The Netherlands	No information provided
Temephos EC, GR (56 – 112 g/ha active ingredient)	Sharda International	India	Saudi Arabia
Diflubenzuron GR (25 – 100 g/ha active ingredient)	Chimac-Agriphar, S.A.	Belgium	No information provided
Diflubenzuron GR (25 – 100 g/ha active ingredient)	Crompton Europe B.V.	The Netherlands	No information provided
Diflubenzuron GR (25 – 100 g/ha active ingredient)	Hockley International Ltd	United Kingdom	Bahrain, Barbados, Bolivia, Botswana, Cambodia, Costa Rica, Cyprus, Dominican Republic, Ecuador, Ethiopia, Ghana, Honduras, Indonesia, Iraq, Ireland, Italy, Jamaica, Kuwait, Lao People's Democratic Republic, Latvia, Lebanon, Malta, Morocco, Myanmar, Nicaragua, Nigeria, Oman, Pakistan, Panama, Peru, Qatar, El Salvador, Sierra Leone, Singapore, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, United Arab Emirates, Uruguay, Viet Nam, Yemen, Zambia
Diflubenzuron GR (25 – 100 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Diflubenzuron GR (25 – 100 g/ha active ingredient)	Sharda International	India	None
Methoprene EC (20 – 40 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Pyriproxyfen GR (5 – 10 g/ha active ingredient)	Ki-Hara Chemicals Ltd	United Kingdom	No information provided
Pyriproxyfen GR (5 – 10 g/ha active ingredient)	Sharda International	India	None

ANNEX V

Further reading, websites and contacts

General

— *Access to Antimalarial Medicines Improving the Affordability and Financing of Artemisinin-Based Combination Therapies.* WHO, Geneva 2003 (WHO/CDS/MAL/2003.1095).

— *The Quality of Antimalarials. A Study in Selected African Countries.* WHO, Geneva, 2003 (WHO/EDM/PAR/2003.4).

— Perspective on Improving Access to Antimalarial Treatment from Professor Jeffrey Sachs
RBM Partnership Meeting on Improving Access to Antimalarial Treatment. Verbatim of video-conference of 2 October 2002.

— *Improving Family and Community Practices. A Component of the IMCI Strategy.* WHO/UNICEF, 1998 (WHO/CHD/98.18).

Antimalarial treatment and drug resistance

— *Assessment and monitoring of antimalarial drug efficacy for the treatment of uncomplicated falciparum malaria.* WHO, Geneva, 2003 (WHO/HTM/RBM/2003.50).
http://mosquito.who.int/cmc_upload/0/000/017/017/ProtocolWHO.pdf.

— *Monitoring Antimalarial Drug Resistance. 2002. Report of a WHO consultation.* WHO, Geneva, 2001 (WHO/CDS/CSR/EPH/2002.17 WHO/CDS/RBM/2002.39).
http://rbm.who.int/cmc_upload/0/000/015/800/200239.pdf.

— *Antimalarial Drug Combination Therapy: Report of a WHO Technical Consultation.* WHO, Geneva, 2001 (WHO/CDS/RBM/2001.35). http://rbm.who.int/cmc_upload/0/000/015/082/use_of_antimalarials2.pdf.

— *Management of Severe Malaria: A practical handbook.* 2nd Edition. WHO, Geneva 2000 (ISBN 92 4 154523 2). http://rbm.who.int/docs/hbsm.pdf.

— *The Use of Antimalarial Drugs: Report of an Informal Consultation.* WHO, Geneva, 2000 (WHO/CDS/RBM/2001.33).
http://rbm.who.int/cmc_upload/0/000/014/923/use_of_antimalarials.pdf.

Vector Control including Insecticide-treated nets (ITNs)

— *WHO Guidelines on the management of public health pesticides: Report of the WHO Interregional Consultation, Chiang Mai, Thailand, 25-28 February 2003.* WHO, Geneva, 2003 (WHO/CDS/WHOPES/2003.7)
http://www.who.int/ctd/whopes/docs/Final_Guidelines_Pesticide_Management.pdf

— *Scaling-up insecticide-treated netting programmes in Africa: A strategic framework for coordinated national action.* WHO, Geneva, 2002 (WHO/CDS/RBM/2002.43).
Available online: http://rbm.who.int/cmc_upload/0/000/015/845/itn_programmes.pdf.

— *Insecticide-treated mosquito net interventions: A manual for national control programme managers.* WHO, Geneva, 2003 (WHO/CDS/RBM/2002.45).
http://rbm.who.int/cmc_upload/0/000/016/211/ITNinterventions_en.pdf.

— *WHO recommended insecticides for treatment of mosquito nets for malaria vector control.*
E-document: http://rbm.who.int/cmc_upload/0/000/012/605/ITNTable.htm

— Najera J A, Zaim M. *Malaria vector control: Insecticides for indoor residual spraying.* WHO, Geneva, 2001 (WHO/CDS/WHOPES/2001.3).

— Najera J A, Zaim M. *Malaria vector control: Decision-making criteria and procedures for judicious use of insecticides.* WHO, Geneva, 2002 (WHO/CDS/WHOPES/2002.5).
http://www.who.int/ctd/whopes/docs/JudiciousUseRev.pdf

— *Specifications for netting materials: Report of an Informal Consultation.* WHO, Geneva, 2001 (WHO/CDS/RBM/2001.28).
http://rbm.who.int/cmc_upload/0/000/012/756/netspex.pdf

— *Guidelines for the purchase of public health pesticides.* WHO, Geneva, 2000 (WHO/CDS/WHOPES/2000.1).
http://www.who.int/ctd/whopes/docs/PurchaseGuidelinesRev.pdf

Malaria in pregnancy

— *A policy framework for malaria prevention and control during pregnancy in the African region.* WHO/AFRO, 2003. Final draft available from WHO/AFRO.

Medicines and other supplies

— *Guidelines for price discounts of single-source pharmaceuticals* (interagency document). WHO, Geneva, 2003 (WHO/EDM/PAR/2003.3).
http://www.who.int/medicines/library/docseng_from_a_to_z.shtml#g

— *Guidelines on interaction with commercial enterprises to achieve health outcomes.* Annex to guidelines on working with the private sector to achieve health outcomes). WHO, Geneva, 2000 (EB107/20).
http://www.who.int/gb/EB_WHA/PDF/EB107/ee20.pdf

— *Guidelines for drug donations* (interagency document). WHO, Geneva, 1999 (WHO/EDM/PAR/99.4).
http://www.who.int/medicines/docs/pagespublications/ supplypub.htm.

— *Operational principles for good pharmaceutical procurement* (interagency document). WHO, Geneva, (WHO/EDM/PAR/99.5).
http://www.who.int/medicines/library/par/who-edm-par-99-5/who-edm-par-99-5.shtml

— *Managing drug supply.* 2nd edition. Management Sciences for Health/ World Health Organization, 1997.
http://www.msh.org/what_MSH_does/cpm/resources.html#top

Intellectual Property rights and pharmaceuticals

— *HIV/AIDS Medicines and related supplies: Contemporary context and procurement.* Technical Guide, World Bank, Washington, DC, 2004. (Chapter 2 and Annex B).
http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Technical-Guide-HIV-AIDS.pdf

— *Drug patents under the spotlight: sharing practical knowledge about pharmaceutical patents.* Médecins Sans Frontières, Geneva, 2003.
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— *Globalization, patents and drugs: An annotated bibliography.* Health Economics and Drugs Series No.9. WHO, Geneva, 2002 (EDM/PAR/2002.1).
http://www.who.int/medicines/library/par/who-edm-par-2001-1/who-edm-par-2001-1.htm

— *Implications of the DOHA Declaration on the TRIPS Agreement and public health.* WHO, Geneva, 2002 (WHO/EDM/PAR/2002.3).
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— *Network for monitoring the impact of globalization and TRIPS on access to medicines: Meeting report.* Health Economics and Drugs Series No. 11 WHO, Geneva, 2002 (WHO/EDM/PAR/2002.1).
http://www.who.int/medicines/library/docseng_from_a_to_z.shtml#n

— Globalization, TRIPS and access to pharmaceuticals. WHO Policy Perspectives on Medicines No.3. WHO, Geneva, 2001.
http://www.who.int/medicines/organization/ood/ood6pagers.shtml

— *Patent situation of HIV/AIDS-related drugs in 80 countries.* UNAIDS/WHO, Geneva, 2000.
http://www.who.int/medicines/library/docseng_from_a_to_z.shtml#g

— *Globalization and access to drugs. Perspectives on the WTO/TRIPS Agreement.* Health Economics and Drugs Series No. 7. WHO, Geneva, 1998 (WHO/DAP/98.9).

Pricing strategies

— Drug Price Information Services. What is WHO doing to improve drug price information? WHO Information Sheet http://www.who.int/medicines/organization/par/ipc/drugpriceinfo.shtml

— Medicine Prices: a new approach to measurement. WHO/Health Action International, Geneva, 2003 (WHO/EDM/PAR/2003.2). http://www.who.int/medicines/library/prices.shtml

Roll Back Malaria Partner websites

— UNICEF: www.unicef.org

— WHO: www.who.int

— PSI: www.psi.org

— MSH: www.msh.org

— MSF: www.msf.org

— GFATM: www.theglobalfund.org

Contacts

— **For further information about suppliers or products, please contact:**

Malaria Medicines and Supplies Service (MMSS):
Email: RBMmmss@who.int
Fax: +41 22 791 15 87

UNICEF Supply Division
Email: supply@unicef.org
Fax: +45 35 269421

— **For further information on mosquito nets, contact:**

World Health Organization
Fax: +41 22 791 48 24

— **For further information on diagnostic tests, contact:**

World Health Organization
E-mail: mal-rdt@wpro.who.int
Fax: +632 521 1036

— **For further information on insecticides, contact:**

World Health Organization
E-mail: whopes@who.int

— **For further information on spray equipment, contact:**

World Health Organization
E-mail: whopes@who.int

— **For further information on insecticides resistance kits, contact:**

World Health Organization
E-mail: whopes@who.int

— **For further information on a range of test plates available for drug resistance kit, contact:**

World Health Organization
Fax +41 22 791 48 24

ANNEX VI

Feedback and enquiry form

Please fill out this form and fax it to UNICEF Supply Division +45 35 26 94 21 or post it to:

UNICEF Supply Division,
Roll Back Malaria Project, Malaria Survey
Freeport DK-21+ Copenhagen Ø
Denmark

1. General Information

Your name _____

Occupation _____

Company name/Organization name _____

Address _____

Telephone _____ Fax _____

Email (required) _____

Internet address _____

2. Feedback

What did you think of the publication in general?

☐ Excellent, very useful ☐ Good, quite useful

☐ Satisfactory, reasonably useful ☐ Poor, not useful – please indicate why:

What did you think of the products included in the publication?

☐ Good selection of products

☐ More variety of products required, for example: _____

_____

_____

☐ Less variety of products required, remove: _____

_____

_____

What did you think of the pricing information?

☐ Good, enough information on the prices of products of interest

☐ Poor, not enough information

What did you think of the annexes and extra information provided in the publication?

☐ Good, annexes provide useful information about the procurement process

☐ Poor, not enough information – please indicate why: _____

_____

_____

Have you contacted any of the manufacturers listed?

☐ Yes ☐ No

☐ Other comments: _____

_____

_____

3. Enquiry

☐ I would like to participate in the next Survey (Manufacturing companies only)

☐ I would like to receive more copies of the Publication

☐ Other enquiry: _____

_____

_____

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